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Address

THE OPPOSITION TO MEDICAL RESEARCH.

CHAIRMAN'S ADDRESS IN THE SECTION ON PATHOLOGY, AND PHYSIOLOGY, AMERICAN MEDICAL ASSOCIATION, JUNE 5-8, 1908.

W. B. CANNON, A.M., M.D.

George Higginson Professor of Physiology in Harvard Medical School.

BOSTON.

In several states during the past year there has been vigorous agitation for legislative restriction of the use of animals for medical research. This agitation is not new. For many years in Massachusetts petitioners have appealed for laws controlling laboratory methods, and previous attempts to secure such laws have been made also in Illinois, Pennsylvania and New York. In England, where a restrictive act has been enforced since 1876, still more drastic law is now demanded.

To those who are active in promoting medical science, the experience of England is particularly instructive, because the legislation asked for in this country is largely based on the English act of 1876. This act is pointed to as a model. But the present appeal in England for more drastic law indicates that even were the English act transferred to our statutes, it would be merely initial and temporary, and that it would not be permanently satisfactory to many of the agitators. Indeed, both individuals and societies hostile to the laboratories have clearly stated that what they desire is total abolition of animal experiments, and that restrictive legislation is the first step to that end. The prospect, therefore, is toward an indefinitely extended struggle for the legislative control of the methods of medical research.

The controversy is one in which violent emotions have been aroused. In some instances the attack on scientific methods has been forced with unmitigated bitterness. Under such conditions each side is prone to be blindly unjust to the other. Until the contestants can meet each other fairly and dispassionately, the controversy can never be limited to the merits of the opposed causes. It must always involve irrelevant personalities. Is it not, therefore, of prime importance to inquire into the reasons for the unfair and irritating misconceptions which prevail? So it seemed to me; and I propose to consider some of these reasons, such as the conflict of testimony, the experience and characteristics of the contestants, certain assumptions regarding animals, and the questions of motive.

THE CONFLICTING STATEMENTS AS TO PAINFUL EXPERIMENTS.

The use of animals for experimental purposes is commonly called "vivisection." It is an unfortunate word, because it has come to have various meanings which are not clearly distinguished. To the "antivivisectionist" the word vivisection too frequently signifies the cutting or dissection of sentient living animals, bound or restrained, and subjected to the full torture of extensive operation without anesthesia. The repeated tales of cruelty, the illustrations of instruments used in laboratory service, and the imaginary pictures of the sufferings which animals are supposed to endure at the hands of the experimenter, indicate the hideous significance ordinarily attached to the word vivisection. To the medical investigator, on the contrary, the word means something quite different. It means, to be sure, operations on living animals, but it does not imply attendant pain. If an animal is anesthetized, and operated on, and is killed without recovery from anesthesia, evidently the operation has not caused pain to the animal. So far as the experience of the animal is concerned, the operation would not have been different in effect, if the animal had first been killed, and later dissected. Now it has been shown repeatedly that in almost all physiologic experiments the observations of the living processes are made in precisely this way, i. e., while the animals are on the way to death by anesthesia. In pathologic and bacteriologic investigation injections are made and sometimes diseases are produced; and in surgical research it is occasionally necesssary, after a painless operation, to keep the animals alive in order to observe the effects of the surgical procedure. It is probable, in these instances of inoculation and aseptic operation, that the animals feel ill, as they do with a distemper. Even if the lower animals were as sensitive as man, the pain, if we may judge from human experience, would not be great. There is abundant evidence, however, that the lower animals are not so sensitive as man. And, furthermore, these bacteriologic and surgical experiments are precisely the experiments which bear most directly on the explanation and the cure of disease in the much more sensitive organism, the human being.

In an inquiry made some years ago, Dr. C. F. Hodge found that of nearly 1,700 animals (including 866 frogs) used for experimental purposes in Massachusetts in one year, the operations in 64 per cent. were painless; in 12.2 per cent. as painful as vaccination; in 0.4 per cent. as painful as the healing of a wound; in 1.6 per cent. as painful as the effect of poison, and in 21.8 per cent. as painful as disease.[1] The official figures for Great Britain for 1906, are as follows:

	Per cent.
Inoculations or similar methods not involving any operation	93.96
Animals killed under anesthetic	3.10
Animals killed under anesthetic after a demonstration	0.34
Animals allowed to recover from anesthetic (no observation or stimulation likely to cause pain and no further operative procedure allowed without anesthetic)	2.60
	100.00

Since the pain of inoculation is trifling, and since in the vast majority of operations even on human beings

1. Pop. Sc. Month., 1896, xlix, 783.

the aseptic healing of wounds causes no considerable pain after full recovery from the anesthetic,[2] and since much of the suffering from disease is due to the anxiety for friends or relatives rather than to physical distress, the total body of pain resulting from animal experimentation is in all antivivisection literature grossly exaggerated.

It has been estimated that not more than 1 per cent. of the experimental procedures are really painful. As a physiologist, Hodge has testified that in more than ten years' experience in various laboratories in this country and abroad he had never had occasion to perform or witness an experiment of this painful class. I can testify to the same experience in my own career of twelve years as medical student and physiologist. And Professor Starling, writing of the use of dogs for research, states that though he has been engaged in the experimental pursuit of physiology for the last seventeen years, on no occasion has he seen pain inflicted on a dog or cat in any physiologic laboratory in England.

In opposition to this testimony as to the practically painless character of the immense majority of operations in experimental medicine, are the statements found on all sides in the writings of antivivisectionists. Some of these cases are records of experiments performed more than sixty years ago, before the use of anesthetics; some of them are frankly of the class of experiments involving pain or discomfort; and some of them are clear instances of misinterpretation by persons too unfamiliar with animal functions and the action of anesthetics to understand ordinary physiologic description. On the assumption that no one concerned in this discussion desires to imply an untruth, it is evident that the failure to recognize the extremely small percentage of cases involving pain, when such cases are cited, is clearly misleading. The failure to discriminate between the various sorts of experiments, the diffusion of the impression that animal experiments are almost uniformly attended with extremes of suffering, the neglect of the great accumulation of fact that testifies to the splendid results of medical research, the monotonous repetition of the hostile opinions of a few physicians long since dead—these characteristics of the attacks on medical investigators lead to the inference that the agitators for legislation are not as devoted as they should be to the spirit of fair play.

The belief that there is great suffering among animals used for experimental purposes is based to a large extent on a refusal to accept the statements of the experimenters. "The vivisectionist anesthesia I have no confidence in, and my association has no confidence in,"[3] such is the characteristic attitude of the opponents of animal experimentation. "I think that all these experimenters have the greatest contempt for the Act of Parliament."[4] these are the words with which the honorary secretary of the National Antivivisection Society of England expresses his belief that English investigators do not hesitate to inflict pain in defiance of the law. Indeed, he states further, "The knowledge that horrible mutilations may be daily and hourly executed on the bodies of living creatures with no adequate security for their insensibility makes very many humane people profoundly miserable, it rises day and night between them and their peace of minds, it haunts their lives waking and asleep, it deprives them of joy in this world which otherwise might be theirs."[5] From what may be found in the writings of other antivivisectionists this implication of secret atrocities in laboratories would be widely accepted as highly probable.

In no feature of the controversy is the difference between the opposing parties more clearly marked than in this attitude regarding the experience of the animals at the hands of investigators. The investigators state that they know nothing of the tortures and horrible cruelties that have been imagined; indeed, that the vast majority of operations are practically painless. The critics, on the other hand, are not only suspicious of the experimenter and distrustful of his testimony, but have even ventured to make accusation of deliberate lying. In any such conflict of testimony it is desirable to inquire into the qualifications of the witnesses in order that a proper estimate may be placed on the opposing statements.

QUALIFICATIONS FOR TESTIFYING.

The reason for distrusting the word of medical investigators is not evident. In almost all instances these men are trained scholars; in many instances they are also practitioners of medicine in whom members of the community place supreme confidence. As men of science their service to their fellow men consists in the search for new truth. In this process of discovery their eyes and ears are especially exercised in exact observation, their minds are continually disciplined to draw only justifiable inferences from what they have observed. They are, therefore, well qualified to report regarding the events which occur in laboratories.

In reporting their experiments it is of the greatest importance, in the interest of truth, that investigators state precisely the details of the procedure and the results that were secured. Every new investigation is a venture into the unknown from regions already known, —an extension of previous knowledge. It is the duty of investigators in their reports to give credit to those who secured the previous knowledge. They are, therefore, accustomed to study the original records of investigation, and to make exact reference to the words on which their own statements are based.

That men of science are infallible, I do not for a moment contend. But I maintain that the search for what is true, and the exact reporting of what is found, are the ideals which animate the lives of scientific investigators, and that the pursuit of these ideals is excellent training in telling the truth.

In examining the qualifications of antivivisectionists to bear reliable testimony against the methods of medical research, it is first necessary to consider the sorts of persons that are to be found among them. If one may judge from representatives at legislative hearings and from names on petitions, the opponents of research consist of many women, fewer clergymen, lawyers, artists and business men, and a relatively very small number of physicians. Setting aside for the moment the physicians who sign petitions for restrictive legislation, and considering the other opponents of medical research, one notes that they are persons without training in the methods of biologic investigation. They do not

2. M. H. Richardson, Animal Experimentation, p. 53. Boston, 1902.

3. Testimony of Mrs. K. Cook, Appendix to First Report of the Royal Commission on Vivisection, October to December, 1906, p. 72.

4. Testimony of Hon. S. Coleridge, Appendix of the Third Report of the Royal Commission on Vivisection. April to July, 1907, p. 183.

5. Ibid., p. 146.

enter the laboratories in which they declare animals are cruelly tortured, they do not see the operations they criticise, they do not realize that there are various degrees of anesthesia (used by surgeons in operations on man), they do not know enough of the history of the medical sciences to judge the great contributions which experiments on animals have given to practical medicine and surgery, they are unacquainted with the dire problems still presented by diseases which continue to kill their thousands and tens of thousands. With all this lack of positive qualification for passing judgment on the work of the investigator there is commonly combined a keen sensibility and a vivid imagination.

Precisely this combination of real ignorance with unchecked imagination causes most of the difficulty. Imagination is permitted to take the place of careful inquiry. The tormenting of animals is assumed to prevail in medical laboratories, with no adequate proof that such is the case. Dark suspicions and insinuations are suggested against honorable men whose lives are devoted through research to the relief of human ills. Absurd claims and grotesque misinterpretations result from this eager fancy allowed free play in reading the records of experiments. Commenting on an experiment in which the peripheral end of a nerve, which had been severed under ether, was stimulated, Mr. P. G. Peabody stated, "It will be readily seen, even by the casual reader, that it involves an amount of agony beyond which science is unable to go and to approximate to which is impossible except by a person who has devoted long years to the study of nerves."[6] The casual layman may indeed be impressed by this apparently authoritative declaration that here is a case of atrocious cruelty; but the most primitive acquaintance with the nature of nervous conduction would have shown the utter absurdity of the assumption that even the slightest pain could have been inflicted by stimulating a piece of nerve separated from the central nervous system. This case is merely an example of many similar cases that might be cited.

Not only are most antivivisectionists, because of ignorance, incapable of intelligent interpretation of the records of experiments, they are also too frequently lacking in those scholarly qualities which demand accuracy of reference and exactness of quotation. Some years ago Dr. W. W. Keen published a large number of examples from antivivisection literature, in which the references were vague, inaccurate or garbled, and in some instances showed extraordinary and repeated interpolations and mistranslations.[7] Only last year there appeared an essay against vivisection, in which experiments performed under anesthesia are quoted as evidence of horrible cruelty, an experiment never performed at all is cited to show the callousness of the investigator, and arguments and statements which have been clearly answered or qualified, are repeated in their original form, as if they expressed the exact truth. This essay was granted a prize of $300, by a committee of antivivisectionists. Its author declares that the object of her article is "not to bandy words with professional and learned men," but to state simply "some thoroughly authenticated facts."[8]

Here, then, are the opposed parties; on the one side men trained to close observation, to careful inference, and to exact statement; on the other side persons revealing repeatedly that they are ignorant of the subject they denounce, that they are incapable of interpreting intelligently what they read, and that they let imagination play uncontrolled in regions they have never visited and in procedures they have never witnessed. These two parties can never be reconciled until both have the same desire to know the truth, and the same willingness to search for it with clear eyes and unbiased mind.

6. Leaflet published by the N. E. Antivivisection Society.
7. THE JOURNAL A. M. A., 1901, xxxvi, 500.
8. Britton: Our Dumb Animals, 1908, xl, 121.

THE COMPLEX RELATIONS BETWEEN RESEARCH AND MEDICAL AND SURGICAL PRACTICE.

As already stated, the men engaged in research in the medical sciences are trained investigators. Most of them have had a long course in medicine, and after that they have had specialized experience in their chosen field of labor. They are engaged in a study of by far the most complicated structures and the most complicated processes in nature, the structures and processes of highly developed animals. And not only are the individual processes intricate, but the animals themselves are intricately related in the nexus of living beings. So complex are the relations that in the fight against disease an immediate and fundamental answer to the urgent practical problem is usually impossible. Each problem must be analyzed into smaller and simpler problems, and these must be patiently investigated, one by one, before the results can be combined into a solution of the practical difficulty.

Thus the question of the proper method of checking the spread of tuberculosis depends primarily on a knowledge of how the disease is spread, and that knowledge, in turn, depends on a knowledge of the cause of the disease, and that depends on a study of tuberculous tissues, and the discovery that in these tissues are bacilli, and the demonstration that these bacilli when separated in pure state and injected by themselves into animals, will produce the disease tuberculosis; and from this point the dependence runs back in all directions—to the discovery of the microscope and its perfection, to the methods of histologic investigation and the use of staining reagents, to suggestions from the study of alcoholic, lactic and acetic fermentations, to the laborious first proof that infectious diseases result from micro-organisms, and to innumerable other factors, which at every step determined whether or not progress could be made. By the failure of any one of this complex group of factors the development of our present methods of dealing practically with the spread of tuberculosis might have been stopped absolutely.

This sketch of the development of our intelligence regarding tuberculosis is only a fair example of the intricate interweaving of knowledge. If all the bearings of every discovery could be at once ascertained, or if every investigator could foresee where his advance would be delayed by ignorance in closely related fields, it might be possible to move forward with greater directness. But these conditions are impossible. The relations are too intricate. Knowledge has to be pieced together after slow and tedious labor in small realms of fact. Yet though the realm any man explores must be small and limited, he has the assurance that just in so far as he sees clearly and tells exactly what he sees, his contribution will fit in with other contributions and thus will find its value in the growing body of truth.

Yellow fever has practically been abolished in Cuba where it was a devastating disease and a constant menace to our southern cities. The glory of that service has justly been bestowed on the army surgeons who proved

the manner in which the disease is conveyed from one person to another. It should not be forgotten, however, that the beneficent results of their work were due in part to the entomologists who had previously studied the veins and scales on the wings, and the hairs and scales on the bodies of mosquitoes, and had observed the ways in which mosquitoes reproduce. Surely these studies appear remote enough from the great human problems of disease and death. Yet how closely are they involved!

This complexity of the relation between discoveries and practice has important bearings in the present discussion of the opposition to medical research. It is the certainty that we are still wofully ignorant of many of the problems of disease, and that every fragment of biologic knowledge may be useful in solving these problems—it is this certainty, and the sincere conviction that the service he performs is in the highest sense humane, that cause the medical investigator to oppose any attempt to check the freedom of investigation. On the other hand, it is the failure of the inexperienced layman to appreciate the complicated relation between investigation and practice, that causes him to look somewhat scornfully on this or that special study and inquire with some warmth, "What can be the use of that?"

In antivivisection writings this question of utility is frequently asked; it is sometimes answered by the statement that all animal experimentation is worse than useless. And in the popular mind the statement is received unchallenged. No doubt some of the widespread ignorance of the relations between medical research and its practical bearings exists because the profession has made no attempt to enlighten the public on these matters. But how many physicians are capable of elucidating these complex relations? Certainly their training in most medical schools does not give them any clear notion of the sources of their knowledge. Their authorities are their professors and their textbooks. The urgency of teaching what to do does not always admit teaching the why and wherefore, and how the why and wherefore were discovered. Just as very few of us know the processes through which our common possessions, such as our clothes, for example, must go before they belong to us, so, too, the student of medicine knows little of the years of patient investigation which preceded the results he learns to use in his practice.

Under the circumstances it is not to be wondered at that physicians can be secured to sign petitions for laws restricting medical investigation. The proposed law seems harmless, an eager patient is interested, and the amiable doctor signs. The fact that physicians' names are on the list is regarded as the strongest support of the petitioners. But, again, the inquiry must be made, What do they know about the conditions of medical research? What do they know of its relations to practice?

Do the petitioners for restrictive legislation realize that the entire fundamental conception of infectious diseases was established by Pasteur through experiments on animals, and that all the modern methods of checking these diseases arise from that conception? Do they understand that some of the most important means of early diagnosis, most important not only for the individual but for the community as well, are dependent on the use of animals? Do they know that methods of treatment, of the greatest value, such as are used in rabies and diphtheria, for example, have been determined by animal experimentation? Do they recognize the necessity of employing animal tests in assuring pure food and pure water to a community? As physicians or as patients are they aware that in using chloral, sulphonal, trional, cocain, eucain, antipyrin, acetanilid, physostigmin, strophanthus, amyl nitrite, adrenalin, thyroid extract—are they aware that they are using drugs discovered or first demonstrated by observations on animals? I have heard antivivisectionists declare that they would refuse to profit by discoveries made on animals. This declaration shows their profound ignorance of the interdependence of modern medical and surgical practice and modern hygiene, on the results of animal experiments. In our civilization it is impossible to escape from the beneficent results of such experiments. We are surrounded by the protection that animals have afforded us. Even the warnings in the street cars against spitting are there because animal experiments proved that such warnings were necessary for our safety.

The scientific application of the experimental method has transformed the world of commerce and industry. The marvel of that transformation is a story that man tells with a just pride in his own achievement. The same sort of painstaking search for knowledge that gave man control of the forces of inorganic nature, has given him most of the control which he now has over the forces of organic nature. It was the method of experiment applied to animals that wrought the change from the empirical medicine of sixty years ago to such exactness of treatment as modern medicine can utilize. And just as the future growth in the physical world must wait further discoveries and new applications of knowledge, so in the realm of biology and medicine, the hope of progress must rest on a continuation of the method which has brought us thus far out of the darkness of the unknown—it must rest on the study of normal and pathologic processes that go on in living animals.

ASSUMPTIONS REGARDING ANIMALS.

Of the animals used in medical research those which rouse the greatest feeling are the dog and the cat. Throughout known history these animals have been the companions of man. They are household pets. The dog especially is capable of exhibiting a degree of affection and devotion which calls forth a like affection and devotion from his master. It is characteristic of our ways of thinking that when a general statement is made most of us interpret it in those concrete terms with which we are best acquainted—when the statement is made that dogs and cats are vivisected we are likely to think of our own dog or cat in relation to this possibility. This tendency to conceive general propositions concretely in accordance with personal experience, novelists and story-tellers, with ignorance and imagination, have utilized to harrow the feelings of animal lovers and thus to turn deep-seated sentiment strongly against the methods of medical research.

In every large city the accumulation of stray dogs and cats is a menace to public welfare. These wandering dogs are frequently vicious, they bite one another, they fight and sometimes kill dogs that are well-behaved pets, and in their wanderings they serve to keep existent the dread disease—hydrophobia. These dangers are recognized as community dangers, and instead of all dogs having the right to life, liberty and the pursuit of happiness, which some antivivisectionists imply they should have, stray dogs are collected from the streets

and are put to death. In London more than 20,000 dogs are annually suffocated in the lethal chamber. In Boston between 3,000 and 4,000 dogs and between 13,000 and 15,000 cats are killed every year by an endowed organization and by public officials. The records of every large city would tell a similar tale.

The dogs and cats used in medical research are just such animals—stray animals, often bedraggled and vicious, and savage from hunger and neglect, that are brought into the laboratories from the streets. In a medical school in which active research is progressing, two or there hundred of these stray animals might be used in a year. During their confinement they are well fed and well cared for.

On their way to death in the laboratories they serve to increase biologic knowledge, knowledge of great value to medicine and surgery; thereby they contribute to the alleviation of human suffering. In the public pound the lives of their wretched fellows go out with no service rendered. It is mere useless death.

There is no question that these thousands of dogs must die. Granted that in almost all cases there is no greater discomfort in the one way to death than in the other, which is the more desirable way for these doomed animals to die—while rendering service to their fellow-creatures, or without benefit to any one? This is the question that should be raised when there is talk of the vivisection of dogs and cats. And I believe that in time an enlightened community will not hesitate to pronounce in favor of the way which renders human service.

THE SIMILARITY OF MOTIVE.

It is the contention of the antivivisectionists that their movement is a crusade against pain. Their opposition to medical research is chiefly based on the belief that pain is commonly inflicted on animals in laboratories to a degree too horrifying to endure. So convinced are they of the existence of torments that they have not hesitated to call laboratory workers "fiends," "demons," "human monsters," "diabolical vivisectors," nor to characterize medical research as a "vile pursuit," "a devilish science," "an inhuman as well as a criminal practice," "an organized system of barbarity." These are merely sample epithets. Believing that these things are true, the opponents of animal experimentation are intent on checking it or abolishing it altogether—with this "plague of scientific cruelty" the only cure is to "stamp it out." The medical investigators declare that they, too, are on a great crusade against pain. But they take definite issue with the methods of their opponents.

In the first place, the investigators object to any step tending to check the use of animals in medical research. They maintain that such interference is not justified by the present treatment of the experimental animals. They declare that the imagined horrors of medical research do not exist. The insane lust for blood, the callousness to the infliction of pain, which are attributed to the experimenters, they resent as most absurd and unjust accusations. Only the moral degenerate is capable of inflicting the torments that the antivivisectionists imagine. No one who is acquainted with the leaders in medical research, who are responsible for the work done in the laboratories, can believe for a moment that they are moral degenerates.

The medical investigators further maintain that judgment should be based on knowledge, not ignorance. They rightly insist that their critics are ignorant—ignorant of the conditions of medical research and ignorant of the complex relations of the medical sciences to medical and surgical practice. And they contend that these critics in their ignorance are endeavoring to stop that experimental study of physiology and pathology, which, as Osler states, in the half-century between 1850 and 1900, did "more to emancipate medicine from the routine and thraldom of authority than all the work of all the physicians from the days of Hippocrates to Jenner," and he adds, "we are yet but on the threshold."

"We are yet but on the threshold"—that is the center of this controversy. How little we really know of scarlet fever and pneumonia, of diabetes, sclerosis and the cerebral degenerations, of the forms of nephritis, and of cancer! How urgent is the cry for more light on these and on many other human afflictions! This is the fact that drives the investigator to renewed exertions. The progress of the past few decades has, indeed, been splendid, but in spite of this progress problems of immense importance to the health and the saving of life, not only of men but of the brutes as well, are demanding solution; the greatest hope for the solution of these problems lies in the continued use of animals for experimental purposes—so the situation presents itself to those engaged in the struggle with disease. Shall men suffer and die to save the lives of the experimental animals, or shall the experimental animals die to mitigate pain and wide calamity among men? That is the question.

The opponents of medical investigation speak for the animals, the investigators speak for man. Which lives are the more important? The question hardly needs answering. The mere thought of sacrificing human life for the life of a dog or cat is monstrous. It is a grotesque reversal of the world's values. To make such a sacrifice would be an act of insane folly. Yet in effect that is what the opponents of medical research really advocate.

The kindly motive of the antivivisectionists can not be questioned. Their intent is to diminish pain and suffering. They pity the dumb animals; to save the lives of these creatures they would check medical progress. The kindly motive is no doubt humane. But ignorance, and shortsightedness, and grotesquely distorted perspective render such humanity a real danger to human welfare.

THE NEED FOR EDUCATION.

In an earlier section of this paper I suggested that ignorance and misconceptions regarding the methods and the results of medical research were due, in part, to the failure of the profession to enlighten the public. The medical profession has, indeed, made very little effort to affect the public mind. This is not because people are not ready to be taught. A large part of every community is eager for education regarding the means of maintaining bodily health, the necessities and the methods of public hygiene, the history of the medical sciences, and the requirements for medical progress. The readiness of inquiring minds to consider these subjects is the basis on which the opponents of medical research are working.

Now the facts must be faced that we are living in a democracy, and that in a democracy the most potent force is public opinion. Public opinion is the result of education. At present the education regarding the use of animals for medical progress is almost entirely one-sided. The antivivisectionists are spreading broadcast

in some communities hideous tales of cruelty, and are leading people to believe that these horrors are typical of what is daily occurring in laboratories. Pictures are published tending to harrow the heart of any one who has in him a love for animals. Meanwhile, nothing is being done to counteract the falsity of these impressions. That medical investigators are also men with tender sympathies and are sensitive to the infliction of pain, that they approach their work with reverence for the wonderful mysteries that every living body reveals, that with a keen sense of human suffering they are patiently searching for new truth in the spirit of far-seeing humanity—these facts are not made known.

The time is approaching, I believe, for this education to be started. The movement should not be confined to the medical profession, but should be taken up as a duty by every intelligent person who believes that any restraint on medical research is a danger to human welfare. Already, in England, a Research Defence Society has been started with Lord Cromer as its president. The purpose of the society is to make known the facts, the facts as to the use of animals in experiments, and the immense importance of these experiments to the well-being of mankind. These facts the society intends to diffuse among the people by published articles and leaflets, by lectures, and by answers to inquiries. Although the society has existed only a few months, it already has hundreds of members, from all departments of public life, representing every class of educated Englishmen and Englishwomen, and including many who have been actively engaged in preventing cruelty to animals.

Thus somewhat tardily in England, after research and teaching have been hampered by restrictive legislation for more than thirty years, it has seemed wise to appeal to the good sense of the people. In this country we have thus far refrained from open opposition to those who are hostile to animal experimentation. But a campaign of education will become imperative, if the attitude of the public continues to be shaped entirely by those who are opposed to medical research. The experience of England is before us. "In the mother-country our hands are tied by an act which was defined by one of the highest legal authorities as a 'penal' act; and though with us, as with others, difficulties may have awakened activity, our science suffers from the action of the state." These were the words of Sir Michael Foster at the Toronto meeting of the British Medical Association; and at the end of a review of biologic progress during the preceding thirteen years, he sounded this note of warning: "Some there are who would go still farther than the state has gone, though that is far, who would take from us even that which we have, and bid us make bricks wholly without straw. To go back is always a hard thing, and we, in England, can hardly look to any great betterment for at least many years to come. But unless what I have ventured to put before you to-day be a mocking phantasm, unworthy of this great association and this great occasion, England in this respect at least offers an example to be shunned alike by her offspring and her fellows."

Against Medical Inspection of School Children.—According to the *Lancet*, the Devon (England) County Council has brought a hornet's nest about its head by adopting the medical inspection of schools. Here is one of the stinging rebukes received by the head mistress of one of the schools: "Dear Madam, I objects to my child being overorled by a doctor. I clears his blood vessels reglar with brimstone and treacle, and he don't want no more doctrine."

Original Articles

FURTHER RESULTS IN SUPRARENAL TRANSPLANTATION.*

DRS. F. C. BUSCH, T. M. LEONARD AND T. WRIGHT.
BUFFALO, N. Y.

In a former communication[1] one of us reported a series of thirty-two cases in which suprarenal transplantation had been attempted. In this first series, a part of the animal's suprarenal was transplanted to its own kidney. At least one positive functional survival of such a graft was obtained. Partial proof of functionating suprarenal grafts was obtained in several other instances. The indication of successful transplantation, consists in survival of the animal, in the absence of all suprarenal tissue, other than that of the graft, and in the histologic demonstration of a living graft containing medullary cells.

In the present series of thirty cases, transplantations have been made into the thyroids, testes and kidneys of dogs and rabbits, not only in the same animal, but also from one animal to another of the same species. The results of implantation into the testes and thyroids were all negative. Positive results were obtained only in those cases where the kidney was used as the receiving tissue.

DETAILS OF TECHNIC.

The complete experiment of transplantation into the kidney, whether the giving and receiving animal are the same, or the receiving animal is another of the same species, consists of three stages, as follows:

First stage.—One suprarenal gland is removed in its entirety. A sagittal third of this, or of a gland from another animal, is introduced into an opening in the lower pole of the kidney cortex, patterned as nearly as possible after the graft to be implanted. The graft is held in place by means of two or more silk sutures passed over it and through the kidney capsule and cortex, on either side. As a rule, the surface of the graft is brought flush with the kidney surface. By cutting off a thin slice from the lower portion of the graft and from each pole, five raw surfaces are brought into apposition with the fresh surfaces of the kidney wound. Care is taken to prevent the intervention of blood-clot between the surfaces of the graft and the kidney. The kidney is then allowed to drop back into its bed, and the external wound is closed.

Second stage.—A varying period after the first operation, the animal's remaining suprarenal is completely removed. In the absence of accessories or remnants, which may have been overlooked during the first operation, there should be no suprarenal tissue remaining, other than that of the graft. If such is the case and the graft has undergone necrosis, the animal should die of suprarenal insufficiency, unless death occurs earlier through anesthesia, hemorrhage, or shock.

Third stage.—If the animal has survived the second operation for a considerable period, the kidney containing the graft is removed. If other causes of death, such as shock and renal insufficiency can be excluded and death occurs within three or four days, preceded by marked muscular weakness and tremor on exertion, it

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

†From the Physiological Laboratory, University of Buffalo.

1. Am. Jour. Physiol., 1906, xv, No. 5.

is probable that the cause of death is suprarenal insufficiency, and that the graft had been functionating. The proof is completed by failing to find suprarenal tissue at autopsy and by the histologic demonstration of an apparently living graft containing remnants of medulla. Additional proof would be the demonstration of blood pressure raising properties of graft extracts.

PROOF OF FUNCTIONING.

Complete proof of functionating graft survival, as outlined above, we have obtained in two cases. In one of these the rabbit's suprarenal was transplanted into its own kidney. Thirty-six days later, the remaining adrenal was removed, and seventy-seven days after the second operation, the kidney containing the graft was removed. The rabbit recovered rapidly from the immediate effects of the operation and seemed quite normal for the first day. The morning of the second day, the animal appeared apathetic; did not move unless disturbed, but showed no pronounced muscular weakness; did not eat. In the afternoon muscular weakness was more pronounced, and there was slight tremor on exertion. When not disturbed there was still slight tremor of the hind quarters and a gentle swaying motion; dullness and apathy were increased. It was found dead, the following morning, stretched out on side, head thrown back. At autopsy the viscera appeared normal. There was no evidence of peritonitis and no suprarenal accessories or stump could be found.

The left kidney, containing the graft, which was removed at the third operation, was adherent to the omentum over the surface of the graft. These omental adhesions were very vascular. After separation of the adhesions, the graft itself was not distinguishable on the surface, but showed on cross section through the kidney as a dark hyperemic mass with a central yellowish core, about two millimeters in diameter and five millimeters in length. Microscopic examination of the graft, which had been fixed in Zenker's fluid, showed this as an oval mass at the bottom of the kidney wound and consisting of cells which stained well with hematoxylin and eosin. Outside of these and extending toward the external surface there was a mass without definite cellular structure, containing many areas of extravasated blood and occasional islands of what appeared to be cells of the suprarenal cortex. The central cells, as well as several small islands separated from the main mass by new formed connective tissue, appeared to be of the suprarenal medulla type. These latter cells also gave a reaction with chrome salts.

The second case (sixty), in which the three stages were completed, consisted in the transplantation of the suprarenal of one rabbit into the kidney of another. The rabbit's remaining suprarenal was removed thirty-six days after the introduction of the graft. The animal made an uneventful recovery. Twenty-nine days later, the kidney, containing the graft, was removed. Death occurred forty-three hours after the third operation, preceded by symptoms similar to those recorded for the first case.

At autopsy no abnormality was found in any of the viscera and there was no evidence of peritonitis. The abdominal vessels were unusually distended, which was likewise the case in the first experiment reported. No accessory adrenals or adrenal stumps were found. The kidney, which contained the graft, was found, at the time of the last operation, to be rather firmly adherent to the left lobe of the liver. The graft was visible at the kidney surface as a yellowish body, about two millimeters wide and four millimeters long; the portion imbedded was about two millimeters in its greatest diameter.

Microscopic examination showed the graft as a wedged-shaped mass of cells walled off from the kidney by new-formed connective tissue, but with very little, if any, inflammatory reaction in the adjoining kidney tissue. The cells of the wedge were large in size and spherical to polyhedral in shape, with relatively small nuclei and much cytoplasm. The nuclei stained well with hematoxylin, and the cytoplasm faintly with eosin. It is difficult to identify them with the cells of the normal gland, but from the fact of their reaction to chrome salts and their size and arrangement it seems probable that they are of the medullary type.

Four rabbits survived the third operation—the removal of the kidney containing the graft. These were killed later, and found to possess accessory suprarenals. In two of these cases, living grafts, containing medullary cells, were found. In the third, the graft was partly necrotic and no medullary cells could be demonstrated. In the fourth, there was hydronephrosis and a partly necrotic graft.

One rabbit met with an accidental death through anesthesia, at the third operation, ninety-four days after the introduction of the graft and fifty-one days after the removal of the other suprarenal. At autopsy, no remaining adrenal stump or accessory bodies could be found. The graft itself was living and contained cells of medullary type. In this case, the transplanted suprarenal was obtained from another rabbit.

Another rabbit died through accident at the second operation, thirty-four days after the introduction of the graft. The graft, although partly necrotic, contained some islands of medullary cells.

In still another rabbit death occurred eighteen days after the removal of the second suprarenal. At autopsy no accessories were found, and the graft was necrotic. In this case the graft must have been still functionating at the time of the second operation, the process of necrosis having been completed eighteen days later, at which time the animal died from suprarenal insufficiency.

The best histologic picture of a graft is shown in an animal which died from some undetermined cause, eight days after the primary operation. In this case the cross section of the graft looks like a section through normal suprarenal, distinctly showing all the zones.

Of the remaining cases of this series, some animals died through accident at the primary operation, and the others from suprarenal insufficiency after the second operation.

SUMMARY.

Including the cases of our first report with those recorded here, we believe that satisfactory evidence of functioning suprarenal graft survival has been given in, at least, three cases. One of these consisted in a transplantation from one animal to another. In several other instances where complete proof could not be obtained, there is a strong probability that grafts were functionating. So far as we know these are the first successful cases of suprarenal transplantation with preservation of function.[2] That the original sympathetic

2. Note made on reading proof: Since the reading of this paper, there has come to our notice a report (Haberer: Arch. f. Klin. Chir., lxvii, No. 2, 1908), of suprarenal transplantation into the kidneys of dogs and rabbits. In these experiments, however, a portion of the original blood supply was left undisturbed, and there was continuity of tissue between the intra and extra-renal portion of the gland. No adequate evidence of functional graft survival was given.

nerve connections of the gland may be severed without apparent disturbance of function has been shown by the successful cases of transplantation.

The kidney seems to be the best structure for the reception of the grafts. The method of removal of the kidney, with the graft, in the third stage of our experiment, has, we believe, in no instance, been a disturbing factor, since those animals which had accessories survived, with apparently no ill effect, the removal of one kidney.

Whether the graft alone, in any of these cases, would have been sufficient to carry on the suprarenal functions indefinitely, we can not say. The longest period of graft survival which we have recorded is 247 days.

With improved technic and more uniform success in animal experiments, it does not seem unreasonable to attempt suprarenal transplantation as a therapeutic measure in Addison's disease.

In conclusion we wish to thank Dr. James A. King and Dr. W. Ward Plummer for valuable assistance in some of the earlier operations.

DISCUSSION.

Dr. W. M. L. Coplin, Philadelphia: An interesting fact in regard to implantation is the suggestion, which has been accentuated by Dr. Busch's admirable communication, that transplantation in the presence of an adequate, normal suprarenal body, or where suprarenal secretion is sufficient, is followed by hyperplasia of the transplanted suprarenal. A very interesting and highly suggestive phase of this work was brought out two years ago by French workers, during attempts to induce hypernephromata by transplantation of the suprarenals. Some times the graft takes and a tumor results; in other instances no neoplasm is produced, although the transplanted tissue survives; of course, in most cases the graft dies, autolyzes and disappears. When the graft remains and its cells proliferate without evidence of suprarenal intoxication, we at once think of Professor Adami's suggestion that when cells are no longer required to maintain their secretory functions they revert to a more highly manifest hyperplastic and productive activity.

Dr. H. G. Wells, Chicago: In 1900 I performed a small series of experiments with the object of transplanting the suprarenal into the kidney in young guinea-pigs, with the object of seeing if from such misplaced adrenal tissue a hypernephroma might develop, but the results were negative. I never got any tumor formation, and only occasionally evidence of survival of adrenal cells. The results were so negative that they were never published.

Dr. A. J. Carlson, Chicago: Is there any explanation for the fact that the graft takes only in the kidney? Why should it not take in other tissues in the vascular supply?

Dr. W. B. Cannon, Boston: Have grafts been placed in the spleen and other organs? Why not make use of the spleen also in these cases?

Dr. F. C. Busch, Buffalo: The point brought up in regard to hyperplasia is interesting, but one on which I am not competent to speak. In these animals, at the first operation, only one adrenal was removed, a part of this or a similar portion of the gland from another animal, being used for transplantation. The remaining adrenal was sufficient to carry on the function until the second operation, even if the graft was inactive. I have not seen any instance of overgrowth or new growth on the part of the transplanted cells.

It is interesting to note that in those animals in which the graft became necrotic, death occurred soon after the removal of the remaining suprarenal, eight to fourteen hours after the second operation. This was due, I believe, to suprarenal insufficiency, and not to the operative procedure alone. In those subjects surviving the removal of all other adrenal tissue, we have nothing but the graft to account for such survival. After the removal of the graft itself, at the third operation, death occurred later, within two to four days, with progressive symptoms of suprarenal insufficiency. It would seem that there had been some adaptation of the animal to the small amount of functionating suprarenal of the graft.

The questions of Dr. Carlson and Dr. Cannon as to the reason for success of transplantation into the kidney and failure in other organs, I can not answer definitely. We did not attempt transplantation into the spleen, partly because, in the rabbit, the spleen is much too small for the purpose. The kidney was chosen because of its ease of access, its vicinity to the suprarenal, its vascularity, ease of handling and control of hemorrhage, and because of its close developmental relations to the suprarenal. I have no explanation of the failure of transplantation into thyroids and testes. Survival of suprarenal cortex after transplantation into the testis has been recorded.

The difficulties involved in the three stages of the experiment I have not specifically mentioned. One of these has been the close relation between the adrenal and the vena cava or renal vein, or both. In attempting complete removal of the gland there is great danger of fatal hemorrhage from wounding these veins.

THE PRESERVATION OF ANATOMIC DISSECTIONS WITH PERMANENT COLOR OF MUSCLES, VESSELS, NERVES AND ORGANS, BY A NEW METHOD.

A PRELIMINARY NOTE.*

EDMOND SOUCHON, M.D.
Professor Emeritus of Anatomy, Tulane University.
NEW ORLEANS.

Since all times, anatomists have tried to preserve dissections with permanent color of muscles, vessels, nerves and organs, but, as far as I know, they have failed in securing permanency of color..

The specimens I have seen in the northern and European museums have all the tissues bleached.

It is not so very important to preserve permanently the actual color of muscles, which varies from one subject to another, but it is essential that there should exist permanently a marked contrast between the fleshy parts of muscles and the tendons, fasciæ, bones and other white tissues, which must remain as white as possible. A dark brown color of the fleshy parts of muscles is satisfactory. The more red the brown is, the better and the prettier.

The specimens should retain their color at least five or six years or else the result would not compensate for the labor and expense. We have specimens with color that are over eight years old. Since the color has kept that long I believe it will keep indefinitely, provided the solutions are changed as soon as they become cloudy.

In my work I have used no newly-discovered chemical. I employ the old arsenic and alcohol, to which I have added carbolic acid, formalin and glycerin. These are the compounds used in colleges all over the world, but it is the combinations and proportions that make all the difference between success and failure.

I started by determining the properties or action of each combination in all the proportions I could think of and letting them go on to do their best or their worst without interfering with them beyond changing the solutions when they became cloudy or discolored. I also experimented to determine the action on color of the lapse of time when the specimens were placed

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in closed empty jars, without any solution in the jar. Altogether I have seventy jars, representing as many experiments. At the end of a year each specimen was examined critically for color, and it was found that six had turned a good color. All the specimens that lost their color did so within two or three months. A new set of experiments was then undertaken, to determine which of the six methods was the best, cheapest, quickest and simplest. I finally came to the conclusion that the following method was, so far, the best in all respects:

1. Lean, male adult subjects should be used. Fat, however small in quantity, makes bad preparations.

2. The subject should be embalmed with the following formula: A. Water, 1¼ gallons; arsenious acid (saturated solution), 1¼ gallons; nitrate of potash, 1 pound; formalin (formaldehyd, 40 per cent.), 6 ounces. B. Alcohol, 16 ounces; carbolic acid, 6 ounces; glycerin, 16 ounces; creosote (beechwood), 2 ounces. The two solutions, B and A, are to be mixed. I tried seven different formulas and used forty subjects before finding this formula, which seldom fails to give a satisfactory color, dark brown, for the muscles. The color may show only a few days after the embalming, but it is seldom that it disappoints. This sometimes happens, though due, I think, to the fact that the chemical composition of the tissues is not the same in all subjects. If, before dissecting, one waits three to six weeks after the embalming, the color is better; but after more than five or six weeks the white tissues often become of a dirty, whitish yellow.

3. The arteries and the veins may now be injected, if desired. This is done with hot tallow, colored with vermilion for the arteries and ultramarine blue for the veins.

4. Now the subject is partitioned off, that is, divided into a number of pieces according to the preparations that it is desired to make.

5. Each piece is placed in a glass jar filled with a solution of 1 ounce of formalin to the gallon of water (F. 1). This is changed as often as it is discolored by the blood.

6. When the specimen has been purged of its blood, it is suspended in an empty glass jar with a lid on, and is left to drain off its superfluous water. This requires ten days, more or less.

7. The dissection is then made. It should be done with the parts in the position in which they will stand when exhibited or used in demonstrating. There should be a separate specimen for each layer. In order not to destroy their situation, direction, course and relations, the structures in one exposed layer should not be raised from their beds.

8. When the dissection is completed, if the muscles present a satisfactory color (dark brown), the specimen should be immersed in a strong formalin solution, after the idea of Kaiserling, using 10 ounces to the gallon (F. 10), and leaving the specimen in for three days. When after the dissection the muscles present an unsatisfactory color, especially if they present a raw appearance in part or in totality, the specimen should be immersed in a weak carbolic solution, 1 ounce to the gallon (C. 1). The solution should be changed as soon as it becomes cloudy and the specimen should remain in the C. 1 until the solution stays clear. This distinction in the use of a strong formalin or of weak carbolic is important, because if the muscles are not truly dark brown, especially if they are of a raw color, the formalin turns them into a brown gray or bronze color that no later treatment will change. C. 1 used in place of F. 10 when the muscles present a satisfactory color, often gives good results. Sometimes the results are better than with F. 10. It is all, I think, according to the chemical composition of the tissues of the various subjects. Usually the muscles pale somewhat or change color, when placed in any one of these solutions, but later on in the process the color returns.

9. When the dissection has ceased to purge it is placed in an empty glass jar with a lid on and is allowed to cure. This curing stage is of great importance, second only to the embalming formula, as it develops or brings out again the color, without darkening the tendons or other white tissues. It also smoothes the surfaces, which may be shreddy and ragged; it sharpens the edges of the muscles, thus giving better definition. It fixes the color so as to keep it from being perceptibly affected when the specimen is put up permanently in a solution of alcohol. Even a weak solution of formalin will not affect it much. This curing stage should last until a satisfactory color is attained, but not less than one month. It sometimes requires two or three months, or more, for the muscles to acquire a satisfactory color (dark brown).

10. The arteries must be painted with a vermilion red and the veins with a cobalt blue. The best material is the moist colors (gouache colors), originally used by Dr. Gwilym Davis. They should be allowed to dry thoroughly before the dissection is placed in the following solution.

11. Finally, the specimen is placed in a glass jar filled with a solution of 20 ounces of alcohol to every gallon of water (A. 20).

12. The solutions should be changed as often as they become slightly cloudy or discolored. This is essential to the permanent beauty. Otherwise the impurities in the cloudy or discolored solutions will settle on the white tissues, stain them and destroy their whiteness and brilliancy.

13. Some specimens are refractory to redeveloping color. If after ten or twelve weeks of curing the color has not become satisfactory, place them in A. 20 notwithstanding. If after six or eight weeks in A. 20 there is still no satisfactory color, put them up again to cure for eight or ten weeks or more. The tendons sometimes become horny, but they usually regain their whiteness after they are re-immersed in A. 20. If even then no satisfactory color has redeveloped, put them up in C. 1 until they do. There is here some risk of the tendons and other white tissues acquiring a red gold tinge. As soon as there is any positive sign to that effect, the specimen should be drained for a few days and then immersed permanently in A. 20. Very often the A. 20 will pale the red gold color of the tendons. Thus may be saved some valuable specimens which have cost much time and labor. If this fails the specimen should be made over again with the hope of securing a more favorable result.

That uniformity of color and results does not invariably follow uniformity of procedures is due, I believe, to the fact that the chemical composition of the tissues varies with the subjects. It must be well understood that these two processes are recommended only in cases of refractory specimens which presented a satisfactory color after the dissection was completed. Those specimens which presented an unsatisfactory color after being dissected will seldom respond. I estimate so far, that 85 or 90 per cent. of the specimens turn out satisfactorily. The remainder are merely good, but not good enough to be placed in a museum. Some specimens have to be done over two or three times before one is obtained that is good and pretty enough to be put in a museum.

The colors in specimens that no chemical or other treatment will improve are gray (dark or light), bronze, brick (uric acid color), coffee and milk (medium or light), and pale pink.

14. The other solutions employed for temporary immersion, instead of C. 1 or F. 10, are alcohol, 20 ounces to the gallon (A. 20); alcohol and carbolic acid (A. 20, C. 1); alcohol and glycerin (A. 20, G. 10); and glycerin and carbolic acid (G. 10, C. 1). They give fairly good results often enough, but not as often as C. 1 or F. 10, nor as good.

15. When specimens become too dark they should be placed in a solution of 20 ounces of alcohol and 1 ounce of formalin (A. 20, F. 1) to each gallon of water. As soon as they have attained a satisfactory color, remove them and put them back in A. 20.

The great practical value of this new method is to give us the means of building study museums composed only of real dissections placed in large glass jars in

spacious rooms, flooded with light, on tables so that students can come right to them and study them. Each structure in each specimen is marked by a number and on an appended card the name of the structure is opposite the number. Thus the students can prepare for the dissecting room; they see the innumerable things they never see in a dissecting room; they are able to review and fix in their minds what they have already dissected themselves; the practitioners can in a few moments relearn much anatomy. Such is the study museum that I am now building for the Medical department of Tulane University in New Orleans. Its full usefulness, however, will be brought out only by allotting on the lecture card one hour three times a week for students to study the preparations and by letting them understand that a quiz on these preparations will be a part of their final examination in anatomy.

The same method gives similar results for pathologic specimens, provided the subjects are embalmed with the foregoing solution before the postmortem examination is made.

However, this solution often affects the color of the stomach and intestines. A weaker one will not do so and will assist materially in preserving the color in making pathologic specimens. It will also delay the decomposition of the body for several days in this New Orleans climate in August, when subjects decompose in a few hours. On making the postmortem of such embalmed subjects the embalming passes unnoticed. The solution is composed as follows: A. Arsenic (saturated solution), one and a half gallons; nitrate of potash, one-half pound; formalin, two ounces. B. Alcohol, sixteen ounces; carbolic acid, four ounces; glycerin, sixteen ounces; creosote, two ounces. The two solutions are to be mixed.

The following is a formula which is best suited for embalming subjects to be used in the dissecting room; A. Water, one and a half gallons; arsenious acid (saturated solution), one gallon; formalin, eight ounces. B. Alcohol, sixteen ounces; carbolic acid, eight ounces; creosote, two ounces; glycerin, sixteen ounces. B. and A. are to be mixed. The arteries are distended with cornstarch colored with crimson anilin, the diffusibility of which is regulated by a solution of tartar emetic.

I have worked out the formula used at Tulane for subjects for operative surgery: A. Arsenious acid (saturated solution), two and a half gallons; nitrate of potash, two pounds; formalin, four ounces. B. Alcohol, sixteen ounces; carbolic acid, eight ounces; creosote, two ounces, glycerin solution. B. is to be mixed with A.

The foregoing is only a preliminary note. I shall proceed with the work for some time. Then I propose to publish another note in which I shall mention the improvements, if any, and in which I shall give numerous technical details useful to those who may wish to engage in such work and build also study museums for their universities.

2403 St. Charles Street.

DISCUSSION.

DR. PETER POTTER, Butte, Mont.: Over half the value of some of the greatest anatomic work which has ever been done is lost because we have only a written record of the work. For instance, Pirogoff, the Russian surgeon and anatomist, was able to get an unlimited amount of material, and climatic conditions were such that he could do much work which could not be done in a warmer climate. The result of his work is contained in five volumes of text and figures. His method was to freeze the body and cut into sections, but the moment his studies were completed and drawings made, the material was destroyed. If we had that material to-day, preserved as Dr. Souchon would preserve it, together with his text and figures, it would be of incalculable value.

Braune of Leipsic reproduced his drawings in a manner that has never been equaled; still his work is incomplete because his material was destroyed after his book was published. The proper preservation of material would enable us to correct mistakes and complete unfinished work of other observers. Even Braune is said to have made mistakes, but this can not be proved or disproved, because his material can not be replaced, and we have nothing but his record and charts. If the material had been preserved an anatomist could go over the work and correct an error, if there was one, or confirm Braune's observations.

Something should be done in this country along the line suggested by Professor His of Leipsic toward establishing an anatomic and histologic institute which would be a central depository for material, microscopic and macroscopic, anatomic or surgical, which has been the basis for original work of merit. The material could be deposited there, and afterward studied and examined by anatomists and surgeons, or any one capable of doing the work, not only to correct errors, but to complete work which even our foremost men are often unable to finish in a lifetime. There is one institution in this country which, I suppose, is looking toward that end, although I have no authoritative information on the subject. It is my impression that we ought to encourage the Wistar Institute of Philadelphia to take charge of such work and material preserved as is done by Dr. Souchon. If the Wistar Institute is not in a position to take up this work, this Section should be.

Whatever solution is used, it must be a solution that is permanent. Another method of preservation is the use of formalin. A 50 or 100 per cent. solution of formaldehyd is the best for preserving specimens, but it does not retain the original color. If we can get a solution that will preserve the specimen as well as formalin does, and retain the color of the tissues as Dr. Souchon's method does, we shall have an ideal preserving method.

MY PRESENT POSITION ON APPENDIX QUESTIONS,

AND REFERENCE TO THE DAWN OF THE FOURTH OR PHYSIOLOGIC ERA IN SURGERY.*

ROBERT T. MORRIS, M.D.
Professor of Surgery in the New York Post-Graduate Medical School and Hospital.
NEW YORK CITY.

The time has arrived when we may, at least tentatively, classify four separate and distinct kinds of appendicitis: 1, Fibroid degeneration appendicitis; 2, infective appendicitis; 3, congestive appendicitis; 4, appendicitis by external invasion.

FIBROID DEGENERATION APPENDICITIS.

This is an irritative lesion rather than an infective one, and it seems to be the one, on the whole, which takes the largest number of patients to the physician.

It occurs during the course of normal involution of the vermiform appendix. In this process there is replacement of the various structures of the appendix by hyperplastic connective tissue. Nerve filaments persist for a longer time than most other structures in the appendix which is undergoing involution changes, and these nerve filaments are irritated by the contracting connective tissue in the same way as other nerve filaments are irritated in contracting connective tissue in

* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

other parts of the body—notably in the scars of amputated limbs. The effects of irritation of entrapped nerve filaments in the appendix seem to be of two chief kinds. Irritated sensory nerve filaments give rise to a sensation of discomfort in the appendix region. This is commonly little more than an indefinite feeling of discomfort, but it may amount to actual pain. Patients are apt to press on the abdomen with the hand over the appendix region, or to lean against a chair or table for relief. Irritated sympathetic nerve filaments entrapped in the contracting appendix seem to cause an excitation of the intima ganglia of the bowel wall (Auerbach's plexus and Meissner's plexus), and this leads to derangement of function of the secretory and excretory apparatus of the bowel, causing intractable intestinal dyspepsia.

According to my experience, fibroid degeneration of the appendix is the commonest single cause for intestinal dyspepsia. This probably does not often merge into infective appendicitis for two reasons: First, the structures involved in infective appendicitis are actually removed through connective tissue replacement; second, the chronic irritation calls out chronic leucocyte protection, so that the patient suffering from fibroid degeneration of the appendix seems to be specially guarded against infective invasions.

Diagnosis of Fibroid Degeneration.—There are five important diagnostic points for recognizing fibroid degeneration appendicitis:

1. Hyperesthesia of the right group of lumbar ganglia, when deep pressure is made at a point about one inch and a half to the right of the navel.

2. Constant presence of gas in the cecum and ascending colon to the hepatic flexure.

3. Intractable intestinal dyspepsia.

4. Persistent discomfort, varying in degree, in the appendix region.

5. An appendix which feels harder than the normal appendix on palpation.

The condition of fibroid degeneration of the appendix causes disturbance for many years, but is seldom noted in patients less than 20 years of age. It belongs to middle and later life. It is well understood by a few diagnosticians, but has been overlooked in most of the patients whom I examine. So little is the condition recognized as yet that surgeons operating in cases diagnosed as chronic appendicitis have sometimes closed the abdomen without removing the "inconsequent appendix" which was found, believing that they had made a mistake in diagnosis. Other surgeons removing such appendices on general principles, but still believing that they had been mistaken in diagnosis have been surprised at the prompt and unaccountable recovery of the patient's health.

Patients do not often go to bed with the irritative lesion of fibroid degeneration of the appendix. They are the patients who go the rounds of the profession asking for definite diagnosis in connection with their appendix symptoms or for their intestinal dyspepsia. Blake has described a series of cases corresponding closely with these cases of fibroid degeneration of the appendix, but he ascribes the symptoms to faulty mesenteric attachment. I believe that his specimens were not subjected to microscopic examination, and that another series of specimens, examined with reference to fibroid degeneration, will be found to contain many belonging to the latter class rather than to the class in which faulty mesenteric attachment leads to mucous inclusion or to vascular derangements.

Treatment of Fibroid Degeneration.—My position relative to operation in these cases of fibroid degeneration is to advise against it when the patient is first seen. He is asked to follow medical treatment under the care of his physician. Many of the patients, relieved of their fears of appendicitis, become so well that they need little further attention. Other patients will return at the end of a few months and ask to have the fibroid degenerating appendix removed.

On account of my interest in the subject, some of my assistants at the hospital, for the sake of brevity, got to calling these cases "cases of Morris' appendix." The nomenclature is not allowable for two reasons. Senn described them in a general way as cases of "appendicitis obliterans," and Ribbert referred to the condition as "normal involution of the appendix" before I took up the study and noted the presence of persistent nerve filaments and observed the occurrence of hyperesthesia of the right group of lumbar ganglia as a diagnostic point. If for the sake of brevity it is desirable to call cases of fibroid degeneration of the appendix by the name of any observer, they should be called Senn or Ribbert appendices.

Another reason why the nomenclature of "Morris' appendix" is undesirable is because the appellation has gone wrong in some quarters and now stands for the perfectly normal appendix. This began apparently in a spirit of humor, but by *reductio ad absurdum* on the part of serious men it led to the conclusion that I favored removal of the normal appendix. As a matter of fact, I have always opposed the idea of removal of the normal appendix, even when it appears incidentally in the course of some other operation. My reason for this is that the field about the normal appendix is unprotected by leucocytosis, and the opening of ever so small a part of the intestinal lumen in an unprotected field calls for a great degree of skill.

A type of appendix which may be confused with the fibroid degeneration appendix is the fibrous scarred appendix remaining after infective invasion. The history of acute infective invasion, and the destruction of nerve filaments along with other structures in such an appendix will commonly serve for making the distinction.

INFECTIVE APPENDICITIS.

At present infective appendicitis is the most conspicuous ailment of the appendix, even though numerically the cases seem to take second place. My position in regard to causation of this type of appendicitis has not changed since the publication of my book on the subject in 1895. This work is now out of date on many other points. I believe the common, acute, infective appendicitis to be due to anything which causes the inner soft coats of the appendix to swell to the point of strangulation within the tight outer sheath. It matters not whether this swelling is caused by the presence of a concretion, the extension of an ordinary colitis, a blow or a twist from the psoas muscle, or any one of a number of disturbances.

As soon as the lymphoid, mucous and submucous coats have swollen within the tight sheath of muscularis and peritoneum they become anemic (compression anemia). An isolated anemic area of this sort should be instantly attacked by bacteria, for the reason that it has momentarily lost its leucocyte protection, and be-

cause the bowel bacteria of the lumen of the appendix are right at hand to begin invasion into such an anemic area. The infective process is brought to a halt in one of three ways: 1, By sufficient determination of phagocytes to the point, through blood vessels not disabled entirely; 2, by sufficient determination of phagocytes to the point of blood vessels in neighboring structures which have become adherent to the infected appendix; 3, by surgical removal of the appendix.

WHEN TO OPERATE.

It is evident that without surgical operation the infective invasion is confined only by the limitations set by the autoprotective factors of the individual patient. By this we mean his ability to manufacture opsonins and phagocytes, and to get them to the field of action through unobstructed blood channels. On the basis of this belief I still hold to the dictum, stated many years ago and which aroused considerable antagonism, to the effect that in acute progressing infective appendicitis operation must be performed as soon as the diagnosis is made. The reason for this is that the bacteria are performing an operation on the appendix, and operation by the surgeon is merely a transfer of authority. We can never know in advance what limitations to infective invasion are to be set by the patient, but we do know what many surgeons are able to accomplish, for their statistics are available.

My position toward cases that are first seen when an acute attack is evidently subsiding depends on judgment in individual cases and can not be stated as a dictum. Sometimes it is best to operate, in order to shorten the period of convalescence and to avoid the danger of recrudescence of infective invasion. Sometimes it is best to wait for entire subsidence of infection and to choose the interval stage as the time of operation. The advantages of waiting for the interval are not so great as commonly supposed. The reason is that in the interval between attacks we lose the benefit of the local hyperleucocytosis that has been called out by the infection, and the patient has to get up a new local leucocytosis for the surgeon when he finally operates.

My position toward operating in the interval depends entirely on the case. Many patients have had the appendix wholly destroyed in a violent acute attack and never need an operation subsequently unless for separation of troublesome adhesions. Other patients carry chronic infection and mucous inclusions after the subsidence of an acute attack, and these patients call for operation as soon as a convenient time can be arranged. I have had many patients get into trouble because they set the convenient time too far away, and they had to have a hurried operation at a most inconvenient time. It is not difficult, by palpation and by observance of the subjective symptoms, to classify interval cases pretty accurately, so that we know which patients need operation and which do not.

The Incision, and Treatment of the Stump.—Concerning the choice of incision for interval cases of appendicitis, I still hold to the McBurney or gridiron incision. The results are so ideal that I do not dare to change to other types that have been advocated by other operators. The skin incision need not often be more than an inch and a half in length, no matter how extensive the adhesions, and the split muscles fall together so readily that hernia is avoided. A pair of scissors and a needle are about the only instruments that are required in any sort of appendix operation. My position toward treatment of the stump in interval cases has changed several times. I have employed nearly all the methods that have been advocated. Since the publication of Seelig's convincing article on the subject in the *Annals of Surgery*, about three years ago, I have put aside fears and now ligate the stump simply like an artery, dropping it back into the peritoneal cavity after touching it with carbolic acid and neutralizing the carbolic acid with alcohol, which latter should be washed away with a little saline solution to avoid all irritation. This simple treatment of the stump suffices because the stump falls against parietal peritoneum, which walls it in quite as securely as does peritoneum infolded from the cecum. The adhesion to parietal peritoneum is at a point where the cecum is naturally fixed, so no harm results. By dropping fanciful methods of treating the stump we can save from one to five minutes of time, and this will allow the entire operation to be completed without hurry in less than ten minutes in most interval cases.

Cases with Gangrene or Perforation.—My position has changed greatly in regard to treatment of appendicitis cases with gangrene, perforation and products of infection outside the confines of the appendix. Twenty years ago I worked deliberately, made long incisions, and sometimes multiple incisions, for thorough wiping and flushing of the peritoneum. Gauze drains, gauze packing and other sorts of drainage apparatus were employed. Hydrogen dioxid was used for rapidly throwing out products of infection. I then tried to introduce refinements, in the way of more speedy work. Multiple incisions were discarded and the single incision was made shorter and shorter, until now for most cases of extensive infection I use about the same incision as for interval cases. Wiping and flushing the peritoneum, and the use of gauze drains and gauze packing were gradually dropped, as fast as I could feel that I was on safe ground.

After the publication of Dr. John G. Clark's notable paper in the *American Journal of Obstetrics* relative to complete closure of the abdominal cavity without drainage, in pyosalpinx cases, I tried for about a year, in appendicitis cases with pus and peritonitis, the method of flushing the peritoneal cavity with saline solution and then closing without drainage. Primary union was obtained in many cases. None of the patients died and none had increase of peritonitis. Secondary abscess appeared just often enough to make the method undesirable, and I now use a short wick drain and only one. In patients with thick, fat or strong muscular abdominal walls I sometimes exchange the gutta percha covering of the wick drain for sheet lead, which is benign in the tissues and which maintains a free opening through heavy walls.

In these cases of appendicitis with pus and peritonitis I have not changed from the idea of breaking up adhesions sufficiently to allow of finding multiple pus pockets, as well as for turning out the appendix; but I avoid separation of the entire mass of adhesions, because they immediately reform, and sometimes in undesirable positions. I have little objection to spreading pus on normal peritoneum which gets into the field, or of leaving such peritoneum covered with pus, as the patient's autoprotective factors care for it promptly. In former years I damaged these patients very much in attempting to do various kinds

of "ideal work" with the stump, but for some years now I have particularly avoided efforts at bringing the cecum to the surface in cases in which it would cost the patient too much. The appendix is ligated simply at the bottom of the well, or in the worst type of cases it is not even ligated. A pair of forceps is snapped over the base of the appendix and left *in situ* until the following day.

The appendix in these cases can often be pulled away with the fingers, and in some cases in which it is seen to be black and gangrenous it is not even necessary to do this, as it will melt away and run out in a day or two. It is only in the desperate class of cases, however, that one will need to leave a gangrenous appendix—the class of cases in which it is best to complete the entire operation in three or four minutes. In cases of appendicitis with pus and peritonitis it is best to complete the operation in from five to fifteen minutes as a rule. This not only conserves the patient's natural resistance, but it means a short period of intoxication with the anesthetic. Little attempt is made at protecting the normal peritoneum against pus in the course of the operation, and very often pus is still welling freely from the wound when the absorbent outer dressing is applied and the operation completed. The wound is not sutured closely, and sometimes is allowed to remain without any sutures. In these cases the advantages of the gridiron incision are supreme, as the walls fall together so nicely that hernia is almost confined to fleshy patients. In several hundred appendicitis cases since adopting the gridiron incision there are but four hernias, so far as I know—three in fleshy patients and one in a case of omental grafting for a sloughed cecum.

It was my preconceived notion that fecal fistulas would occur rather frequently after the sort of treatment that has been adopted for the stump in these cases of appendicitis with pus and peritonitis, but it seldom appears, and when it does it closes spontaneously without attention in a few days. One can keep a fecal fistula going interminably by applying "ideal treatment" of washing it out, inserting drains, and employing antiseptics which are injurious to the delicate granulation tissue. If the fistula is neglected properly, the undisturbed granulation tissue will be quickly replaced by connective tissue and the connective tissue will contract and close the opening.

After-Treatment. — In the after-treatment of these cases of appendicitis with widespread infection I have not dared to try different postural methods which are known to be valuable, as my results have been so satisfactory with the old recumbent position. The Ochsner starvation treatment I have adopted and applied with great satisfaction, except that I prefer to do a three-minute operation promptly in the class of cases in which Ochsner would not operate until later. Murphy's method of slow instillation of saline solution into the rectum I had applied in principle with the Quimby bag for some time before Murphy described the method and presented the profession with a perfected apparatus for its application.

The refinements offered by quick work, short period of anesthesia, as little surgery as possible, avoidance of flushing, wiping, packing and the use of extensive drainage apparatus, meet with such response on the part of patients that no surgeon accustomed to the classical régime could fail to note the advantages of the methods which I have chosen. Patients so dazed by infection that they do not recognize the surgeon at the time of his examination may often be found reading the newspaper in bed the day after the operation.

SCIENTIFIC NEGLECT.

The treatment which is advocated in this paper may almost be classified as a treatment of neglect. Our highly developed art was not satisfactory when applied to cases of appendicitis with pus and peritonitis. There was a lack of harmony between art and appendicitis. For example, in 1904 Dr. L. W. Hotchkiss[1] published a report from one of the hospitals with which he was connected, showing that from 1895 to 1898 the operative mortality rate in cases of appendicitis with peritonitis was 30 per cent. In 1899 Dr. Hotchkiss changed from the accepted methods of the day and turned to methods which conserved the natural resistance of the patient. He did not have a single death in his next seventy-two cases, although they were of the same class as those which had given 30 per cent. death rate under conventional art, and in which 30 per cent. death rate is common over the whole world to-day. In the year when Dr. Hotchkiss changed his methods, Chauvel[2] made a report on the treatment of appendicitis in the French army for three years. There were 171 cases; 83 were treated medically and 88 surgically. Medical treatment had a mortality of 4 per cent. among those treated before the fourth day, 37.8 per cent. among those treated from the fourth to the eleventh day, and over 50 per cent. for those whose affection was not recognized and treated until after the eleventh day. Surgical treatment had a mortality of 42 per cent. among those operated on in the first five days, and 30 per cent. in operations from the fifth to the tenth day. France represents the highest kind of art, and I therefore make this quotation from that country, although nearly all the European countries showed equally disastrous results from attempting to apply the art of the day to the particularly trying class of cases of appendicitis with pus and peritonitis. It has resulted in turning our faces toward a new era in surgery in general.

Twelve years ago, when I reported on a series of 100 consecutive unselected appendicitis operations, with a death rate of 2 per cent., Dr. Keen publicly protested at Denver against the acceptance of such a report, and Dr. Savidge wrote to the *Medical Record*, saying that it must mean selection of cases for report. Since that time so many other surgeons have presented still better statistics that to-day I may perhaps present for purposes of illustrating the theory a report on my last 100 appendicitis operations at the Post-Graduate Hospital, dating from the last patient out of bed on May 1. There were forty-one cases of appendicitis in all stages of acute attack, with no deaths. There were fifty-nine cases of chronic appendicitis of various sorts, with one death. This death was due to ileus caused by faulty readhesion. There are no hernias in the series so far as I know. No patient was refused operation.

CONGESTIVE APPENDICITIS.

Congestive appendicitis occurs with loose kidney and in various conditions causing general obstruction to the lymph and blood circulation of the abdominal viscera. In these cases the swelling develops slowly. There is time for adaptation of the tissues of the tight outer

1. Med. News, July 2, 1904.
2. Bull. de l'Acad. de Méd., January, 1899.

coats to the swelling tissues of the soft inner coats, and the result is very different from that in which rapid swelling leads to compression anemia. There seems to be no further result than a rather tense and tender appendix, which is amply protected, and which does not have a tendency to go over into the infective appendicitis class, so far as my observation counts.

APPENDICITIS BY EXTERNAL INVASION.

A fourth separate class of appendicitis cases may perhaps be made up from those in which the infection approaches from without. Tuberculosis of the peritoneum, and various infections from the oviduct, frequently involve the appendix incidentally, attacking the outer coats first. The inner coats swell, and may even undergo destruction, but the process is so slow that we do not look for the mishaps accompanying rapid swelling of the inner coats to the point of compression anemia. The gradual approach of infection from without calls out protective factors which take charge of the field and seem to prevent the occurrence of infective appendicitis, as that term is commonly understood.

THE FOURTH, OR PHYSIOLOGIC, ERA IN SURGERY.

It seems to me that the object lesson of the results of conserving the patient's natural resistance, in cases of appendicitis with peritonitis, has opened the vista of a new epoch in surgery.

In the days of Hippocrates surgery was heroic. That represents the first era. Then came Andreas Vesalius and the anatomists, and we had the second or anatomic era in surgery. Pasteur and Lister introduced the third, or pathologic, era. The pathologic era is the one now prevailing the world over. The dominant idea is to prevent the development of bacteria in wounds and to remove the products of infection by means of our art.

Appendicitis has been so refractory in response to the perfection of the art of the pathologic era that when the rubber glove appeared, representing the last degree of refinement of the art, it seemed to have overset the whole system. The use of the rubber glove necessitates comparatively slow work, the employment of long incisions and work by sight. Geologists tell us that the constant accumulation of snow and ice at the antarctic pole may cause a sudden changing of the axis of rotation of the earth. The rubber glove was the last snowstorm of the pathologic era of surgery, and the sun is now to shine on what is perhaps the most fertile area ever exposed to light.

Our faces are now turned toward Metchnikoff and Wright, with their descriptions of phagocytes and opsonins, and of the natural protective forces of the patient. We are at the dawn of the fourth, or physiologic, era in surgery. We are to conserve the natural resistance of the patient and to turn him over to his phagocytes and opsonins as helpfully as we can. We are to leave the patient in his best condition for manufacturing phagocytes and opsonins, through the shortest possible method of anesthesia and the least degree of surgery which will suffice to turn the tide of battle between bacterium and leucocyte.

That is the new principle—turning the tide of battle only and leaving the patient with his physiology as nearly intact as possible. The first object lesson in support of the new idea was perhaps furnished by the physician who did not believe in operations for appendicitis, and whose patients sometimes recovered, even though they had pus in the peritoneal cavity. These cases required explanation, and we now have the explanation. The patient attended to the bacteria and to the products of infection. Our surgery of the pathologic era had a tendency to damage the patient to such an extent that he could not destroy his own bacteria and products of infection. The object lesson furnished by the patients of the physicians who did not believe in operating for appendicitis, and the object lesson furnished by the results of operations which neglect the details of the art of the pathologic era, are lessons sufficient for a basis of the coming art of the physiologic era in surgery.

616 Madison Avenue.

DISCUSSION.

Dr. A. J. Ochsner, Chicago: At the present time there is no longer any difference of opinion regarding the treatment of patients suffering from appendicitis belonging to three of the four forms described by Dr. Morris, thanks largely to the splendid work done by Morris, Murphy and many other members of the American Medical Association.

The class in regard to which there is still a difference is limited to cases of severe acute appendicitis complicated with peritonitis; cases in which the infection has extended beyond the tissues of the appendix, coming under treatment two days or more after the beginning of the attack.

Eight years ago I published the following conclusions after testing them carefully for a period of eight years. This form of treatment has been used by myself and many others in thousands of cases belonging to this class with the result of reducing the mortality in this most fatal form of appendicitis to less than 2 per cent. by changing an extremely dangerous acute into a comparatively safe interval condition:

1. Patients suffering from chronic recurrent appendicitis should be operated on during the interval.

2. Patients suffering from acute appendicitis should be operated on as soon as the diagnosis is made, provided they come under treatment while the infectious material is still confined to the appendix, if a competent surgeon is available.

3. Aside from insuring a low mortality, this will prevent all serious complications.

4. In all cases of acute appendicitis, without regard to the treatment contemplated, the administration of food and cathartics by mouth should be absolutely prohibited and large enemata should never be given.

5. In case of nausea or vomiting, or gaseous distention of the abdomen, gastric lavage should be employed.

6. In cases coming under treatment after the infection has extended beyond the tissues of the appendix, especially in the presence of incipient diffuse peritonitis, Conclusions 4 and 5 should always be employed until the patient's condition makes operative interference safe.

7. In case no operation is performed neither nourishment nor cathartics should be given by mouth until the patient has been free from pain and otherwise normal for at least four days. The same practice should be followed after operation.

During the beginning of this treatment not even water should be given by mouth, the thirst being quenched by rinsing the mouth with cold water and by the use of small enemata. Later small sips of very hot water frequently repeated may be given, and still later small sips of cold water. There is danger in giving water too freely, and great danger in the use of large enemata.

9. All practitioners of medicine and surgery, as well as the general public, should be impressed with the importance of prohibiting the use of cathartics and food by mouth, as well as the use of large enemata, in cases of acute appendicitis.

10. It should be constantly borne in mind that even the slightest amount of liquid food of any kind given by mouth may give rise to dangerous peristalsis.

11. The most convenient form of rectal feeding consists in the use of one ounce of one of the various concentrated liquid

predigested foods in the market, dissolved in three ounces of warm normal salt solution, introduced slowly through a soft catheter, inserted into the rectum a distance of two or three inches.

12. This form of treatment can not supplant the operative treatment of acute appendicitis, but it can and should be used to reduce the mortality by changing the class of cases in which the mortality is greatest into another class in which the mortality is very small after operation. This applies particularly to severe acute perforative or gangrenous appendicitis more than thirty-six or forty-eight hours after the beginning of the acute attack.

To Conclusion 8 we now regularly add the excellent method introduced by Dr. Murphy of administering a continuous enema of normal salt solution with an apparatus which permits the flow of only a drop at a time so that it will require at least one hour to introduce 1,000 c.c.

The plan is simply this: In acute appendicitis neither food nor cathartics of any kind whatsoever should be given by mouth nor large enemata except by the drop method and operation should be performed only when the patient has attained a condition in which the surgeon can reasonably expect a favorable result, judging from his personal observation in previous similar cases.

DR. ALEXANDER HUGH FERGUSON, Chicago: In my opinion, it is a dangerous thing to teach that the incision must be a very small one. What is a small incision for one surgeon is not, for physical reasons, a small one for another surgeon. What is a proper-sized incision for the deliverance of the appendix in the hands of one man is dangerous in the hands of another. The incision, therefore, must be of the length necessary to delivery of an infected appendix without rupturing or tearing it.

I can not get over the idea of holding off operation in infected cases. Dealing first with the infected mass is, in my judgment, necessary and must be done with the greatest amount of care. I can not restrain myself from doing something for every case of appendicitis that presents itself to me, irrespective of the number of days it has existed. We can not judge by hours or days of the pathologic condition. In the apparently moribund patients, say between the third and fourth day of the disease or later, I feel like doing something more than washing out the stomach and rectum. I think that at that very stage, when we know that there is pus in that region, demonstrated by the signs and symptoms manifested by the patient, a minimum amount of surgery under local anesthesia should be practiced. Make a very small incision and drain. In other words, create a line of least resistance outward. I believe, however, that many patients have been lost because of the surgeon doing a major operation at that very dangerous time. How many of these patients now die when left to medical treatment alone is a pertinent question.

DR. D. N. EISENDRATH, Chicago: There is one feature of this subject that I wish discussed more fully. It is one which interests particularly the surgeon who is obliged to operate in cases of general peritonitis which the medical man has tried in vain for two or three days to treat by palliative measures. Many of these patients are brought to the surgeon when the abdomen is enormously distended on account of septic paralysis of the intestine, when the pulse is 130 to 160 and the patient is thoroughly septic. The time to bring the patient to the surgeon is in the first twenty-four or forty-eight hours, before there is much toxemia or a great degree of infection. We have learned to leave these advanced cases alone and try to tide the patient over the attack. We elevate the head of the bed, place the patient on starvation treatment and wait until such time as the appendix can be taken out safely in the interval.

During the past nine years Drs. McArthur, Greensfelder and myself have treated thirty-four patients with general peritonitis, and of these we have been able to save 21, or 60 per cent. This includes not only cases brought in during the first day or two of the attack, but on the fourth or fifth day. My own personal statistics based on work done during the past three years are that I have been able to save eleven out of twelve patients. This has been accomplished by following the dicta Dr. Murphy laid down so clearly: by a rapid technic and leaving good drainage in the wound. Of much importance is the after-treatment. We must learn to leave these patients alone and not meddle too much in the after-treatment. Patients should not be filled up with fluid by mouth. We lost two patients, one my twelfth case, through giving large quantities of fluid by mouth. The result was an acute dilatation of the stomach, and all efforts to give relief failed.

Other points of importance are the use of the continuous salt solution by the drop enema method, first advocated in this country by Dr. Murphy, and the use of the Fowler position. One should be constantly on the watch to detect secondary abscess between the coils of intestine or a subphrenic abscess.

DR. CARL BECK, New York: If this country had done nothing else than to elucidate this obscure question, it would have done enough for the whole world. Germany, recognizing what America has done, accepts American views. Two years ago a discussion on this subject was held in Berlin before the local medical society. I was invited to take part and was very much pleased to see in use the methods advocated in this country, but the Germans forgot that it was this great country which brought out these ideas. I congratulated the members of the society that they had become so much Americanized, and I am the only American who ever said so to the members of the Berlin Medical Society.

Regarding the care of the appendix, from my own surgical experience, I can say that anything necrotic serves as a place for bacteria to settle.

DR. WILLIAM L. RODMAN, Philadelphia: One hesitates in entering on a discussion of appendicitis in Chicago, because so much or, I almost said, nearly all the good work in this particular line is being done in Chicago in the last few years. In 1901 I saw a great deal of work done by Dr. Ochsner. It was a revelation to me, and when I heard his epoch-making Chairman's address at St. Paul a little later I returned to Philadelphia determined to put into practice the safe, sound and sane doctrine which I had heard. I was severely criticised in several hospitals for pursuing what I believed from Ochsner's teachings to be a masterly inactivity in cases in which I had been tempted to operate before. It was with some trepidation that I looked for a good result in several instances, knowing that I would be criticised for not operating in such cases the moment I saw them, but I have never yet felt that I regretted following Ochsner's teachings. I believe that he has done more to straighten out this knotty question of when to operate than any one else who has ever lived.

As for the way to operate and the details of operative procedures and technic, of course, Murphy has swept the floor clean; he has left nothing for anybody else to say. I believe that all of us are getting results in operations for appendicitis today that would not have been possible but for the teaching of these men, because they have looked far ahead of their time and they have been the cause of saving thousands and thousands of lives by discouraging premature, foolhardy operations. As to the technic in operations, I believe in ligation of the stump, provided it is covered with the subperitoneal coat, and at the same time the meso-appendix is brought up and placed as a cap over the appendix so as to prevent any possible infection of the cavity. It is a safer procedure than the mere purse-string method.

DR. J. H. STEALY, Freeport, Ill.: I fear that two points mentioned will be misunderstood. 1. Leucocytosis does not amount to much in appendicitis. In the first stage it is very important, but many times I have found a leucocytosis of 8,000 or 9,000 and at the operation I found an ounce or two of pus in an abscess cavity. Drainage is valuable in such cases, as in many others, but the secret of drainage, in my opinion, is to know how to handle the drainage after it is once put there. I have operated on a number of patients throughout the country who were left for the practitioners to look after. If there was not much discharge at the end of the second or third day, the practitioners have removed the drainage. As a result, Nature's protecting wall has been torn up, permitting

extension of infection, and within twenty-four hours there was a general peritonitis and the patient died.

DR. C. C. ROGER, Chicago: In cases of fibrous appendicitis, when the nerves of the appendix are caught in the fibrous tissue, causing almost constant pain—a condition I have described as neuroma of the appendix—if there is no improvement under medical treatment, the appendix should be removed. What is found on entering the abdominal cavity is simply a hard, white cord, which looks as though its removal were almost useless, but the patient will be cured if it is taken off.

I admit that a leucocyte count does not amount to much. Some of my worst cases of gangrene of the appendix had only 5,000 leucocytes. That is not the rule, however; usually in such cases there is a high leucocyte count. If the patient is overcome with toxins, the leucocytes are low. Make a differential count and if you find over 80 per cent. of polynuclear cells operate; if there are 5,000 leucocytes with 98 per cent. of polymorphonuclears the case is an operative one; death is imminent and you must operate at once. The leucocyte count, then, is not of much value, but the differential count is of great value. The incision should be short. The appendix can be removed through an incision sufficiently large to introduce the index finger, provided the appendix is not bound down. The incision should be made wherever the appendix is. McBurney's point means nothing, because the appendix may be any place in the abdominal cavity. The point is to make the incision so you can get at the appendix. The time to operate is at sight in the majority of cases. To wait forty-eight hours is nonsense. Suppurative cases should always be drained, but too much drainage is bad and too little is just as bad. The drain is useless if it is removed inside of twenty-four hours. Leave it in place until it becomes slimy and the exudates push it loose (forty-eight to seventy-two hours). The drainage can be removed at the proper time without danger to the patient.

DR. H. J. BURWASH, Chicago: In the postoperative treatment of those cases of diffuse suppurative appendicitis in which there is a liability to obstruction of the bowel I have used with success enemata of oxygen gas. This is introduced early and before marked signs of obstruction present themselves. The gas is allowed to run slowly into the bowel for five or six minutes hourly. It has the immediate effect of neutralizing noxious gases in the intestinal canal, the therapeutic effects of oxygen on the general circulation, and the mechanical effect of preventing adhesions and hence obstructing by keeping the bowels inflated. This does not, I imagine, exclude the treatment advocated by Dr. Murphy.

DR. H. A. ROYSTER, Raleigh, N. C.: The general practitioner, with whom I come in daily contact, would like to understand two things about the so-called Ochsner treatment. The first is that any treatment intended to tide the patient over a dangerous period does not mean that operation must be abandoned, but that the patient is being prepared for operation. I believe that the Ochsner treatment is the greatest single advance in the treatment of appendicitis, but it is also the most misunderstood method in America to-day. I am sure that nearly every practitioner thinks it is a substitute for operation and not a preparation for it. In other words, if he begins the treatment of a case of appendicitis according to the Ochsner method, he will keep it up, no matter what happens, and, when the patient gets over the attack, rejoices in a cure without operation. If the patient dies, it was God's will.

The second point is whether pus is ever absorbed in the abdominal cavity without killing the patient. I have never understood exactly the teaching on that question. This matter must come up in the minds of the general practitioner, especially when he has a patient with a ruptured appendix, pus in the peritoneum, and the case goes along without operation under the so-called Ochsner treatment. I think that it is the duty of those who see the general practitioners when they bring these cases to let them understand that Dr. Ochsner, as well as every other good surgeon, believes always in operating early for appendicitis, but never when it is unsafe.

DR. CHARLES E. THOMSON, Scranton, Pa.: I am sure that Dr. Ochsner would blush for his treatment if he knew how it was being carried out in the country districts. What does it mean to the general country practitioner? It means: Do not operate in appendicitis, and it means nothing else. Many of those practitioners have always been opposed to surgery, and now they assert that a great surgeon in Chicago is saving nearly all his cases by not operating on them. I admire Dr. Ochsner, but I think that his theory and principles have been misunderstood, and have thus been the cause of filling many untimely graves. I believe that with the Murphy treatment we can save practically all those neglected cases to which Dr. Ochsner applies his treatment, and that the sooner the nonoperative and time-limit theories be eliminated in the treatment of appendicitis the better.

DR. JOHN B. MURPHY, Chicago: It is approximately two years since this subject came before the American medical profession for discussion. We have agreed on the diagnosis, the time to operate and the limitations of this procedure. Limitations are essential to ultimate success. One must do the least thing, give the least trauma and finish in the least possible time consistent with doing the thing well.

Dr. Ochsner brought out, probably before any one else, the recognition of the time when it was dangerous to do work in the peritoneal cavity, because the patient had been neglected in the beginning and allowed to get to a position in which he was loaded to the maximum of his vital resistance by intoxication and infection. A painful mortality has brought recognition of the fact that there are cases in which a little additional work means a fatal termination; that trauma in the peritoneum is one of the most dangerous types of trauma. I am convinced that it is not yet safe to let the order go out that the simple ligation of the appendix, without any further protection of the stump, is ample. I feel that we should give an additional protection to that stump other than mere ligation in the acute infected cases. These are the cases in which we are most likely to have leakage when we simply tie the stump and cut it off. In the intermediate cases, in which I have no infiltration, no reaction to inflammation at the time, I treat it by clamping, by tying a ligature in the crease, and then by taking an overstitch so that there is no raw or abraded surface at that point to become adherent, and it will not become adherent. In the active cases I ligate and then put in a drain.

Appendicitis in pregnancy has a colossal mortality, something like 60 per cent. mortality to the mother and about 90 per cent. mortality to the child. I have been endeavoring to estimate the best time to act. In all the cases that come under my observation, in which the patient has had attacks of appendicitis, I insist on an operation before there is another attack and at the earliest time after impregnation. I think that that will give us the best results.

As to the management of peritonitis, we have up to this date had forty-three cases of perforation of the appendix into the free peritoneal cavity with general diffuse, spreading peritonitis. Among these forty-three cases we had forty-one recoveries. One patient died of pneumonia six days afterward and another died of intestinal obstruction under my own eyes four days afterward with gangrene of six inches of bowel. In the cases with recovery there was much creamy pus around the abscess. This creamy pus, Nature's means of defence, is loaded with scavenger leucocytes; it is producing a circumscribed inflammation of the peritoneum. That means resistance. In the other varieties of peritonitis and perforation not associated with appendicitis, we have had all together nine cases, making a total of fifty-two cases. Five of these were diffuse with perforation and recovery.

There is pus and pus. Dr. Morris does not mean that the pus of the appendix that has ruptured into the free peritoneal cavity could be cared for without interference, because then we would not need any operations. He means that pus of the staphylococcus, the colon bacillus, or the streptococcus type—and these are the three principal types of pus in the peritoneal cavity— does not, without the element of tension, produce a

fatal absorption in any place in the body. He means that the defensive forces of the body are not fully appreciated.

The elements of treatment consist of, 1, closing the opening; 2, relieving the pus tension by putting in a drain; 3, getting out of the peritoneal cavity and leaving in the drain to prevent subsequent tension—no flushing, no washing, no sponging, no trauma. In following out that line of treatment we have not overburdened the patient at the time of the operation with the additional absorption of the products of infection; we have not killed him on the operating table, and these results gained in an experience of five and a half years shows what we can hope for in this disease. Salines are used in all our severer operations of every kind, whether abdominal or not.

DR. ROBERT T. MORRIS, New York: I adopt the Ochsner starvation treatment in principle, but prefer to do a three to five minute operation on a patient when I can; then leave him to his opsonins and phagocytes. The Ochsner treatment is one of the greatest points ever made in the history of appendicitis. The Ochsner treatment as comprehended by the average physician of New York is damnable. We are now arriving at the era of physiologic surgery, of leaving something for the patient's phagocytes and opsonins to do. If we leave this factory of the patient's in good condition, it can go on manufacturing these substances and cure him.

As to simple ligation, what is the difference whether the stump of the appendix lies against the parietal peritoneum or against the visceral peritoneum, the peritoneum of the mesoappendix, which is drawn up over it, or the peritoneum brought up on the stump by the infolding suture? In all these cases the stump lies against the peritoneum, and that is the essential thing if it is promptly walled in by a plastic exudate. We save time by the simple ligation, and time is the thing we must keep in mind in connection with this new principle, the new era in surgery. Dr. Ferguson is still afraid of pus in the peritoneal cavity. If we use gauze to wall off that area we are doing too much surgery. If we fill the patient with gauze, we are performing taxidermy on him. If we break down the adhesions, what will be the influence if we let a pint of pus into the free peritoneal cavity? That is an albuminous fluid, and it will furnish nourishment to the patient. You may kill him if you try to get it out. Let him get it out. He can do it better than we can. In cases of general peritonitis I believe in the three to five minute operation together with the Ochsner treatment. In the last 100 cases at the Post-Graduate Hospital, 100 consecutive cases of appendicitis, unselected, treated by the method of leaving the patient to his own opsonins and phagocytes, 41 acute cases of appendicitis and 59 interval and other cases, there was only one death. I might have presented other series of cases, but this one will suffice. I have operated on every appendicitis patient with peritonitis who was still breathing when I got to him.

Treves Commends Panama Sanitation.—Sir Frederick Treves, speaking on "Preventive Medicine at Panama," before the Royal Society of Medicine (Proceedings, June, 1908, p. 313), said: "I visited the Isthmus in February of last year and had the advantage of seeing this remarkable work under the guidance of Colonel Gorgas, the chief sanitary officer. To Colonel Gorgas is due the credit of an undertaking which in its aims and its results is not one whit less astonishing than the work of connecting by means of a canal the two great oceans of the world. Colonel Gorgas is clearing of disease one of the most pestilential spots in the tropics, and is making of the same a place where men can live in safety and in reasonable health. He is at the same time demonstrating practically the soundness and efficiency of the most recent claims of preventive medicine. . . . It will be seen, I hope, from the above brief description that the Isthmus of Panama provides at this moment an object lesson which those who control the destinies of men might study with advantage. It provides for the realization of a long contemplated and heroic ideal—the medical officer of health with a free hand."

PROMINENT SYMPTOMS IN THE DIAGNOSIS OF GASTRIC AND DUODENAL ULCERS.*

CHRISTOPHER GRAHAM, B.S., M.D.
ROCHESTER, MINN.

The accurate differentiation between duodenal ulcers and ulcers of the pyloric end of the stomach offers great difficulties. When a physician follows his patients from the examining room to the operating table he is forced to the conclusion that to locate a peptic ulcer is not only difficult but often impossible.

In reviewing the symptoms and diagnostic features of peptic ulcer I shall take the duodenal as the type. What holds good for duodenal ulcers, holds equally good for all ulcers situated in the pyloric end of the stomach. The chief difference arises from the degree in which the characteristic symptoms are manifest.

In this discussion I wish to emphasize but four points that seem to stand out prominently and clearly in the larger number of cases: First, the periodicity of attacks of gastric and duodenal ulcers. Second, the number of years through which these attacks and intermissions or remissions have run before surgical relief has been advised, or perhaps accepted. Third, the characteristics of pain, its great diagnostic significance and its place in differential diagnosis. Fourth, the ready control of all symptoms during the period of attack by the measures that control pain—as food, alkalies, irrigation, and vomiting.

PERIODICITY.

The periodicity of attacks is so constant and striking a feature of ulcer of the stomach and duodenum that one can not but have in mind this lesion when the patient complains of repeated attacks, each covering days, with an intermission of normal health of varying time. The onset of symptoms is often initiated without discoverable cause, appearing suddenly and continuing without interruption for days, weeks, or even months, each day a repetition of the former, each meal producing about the same effect; first, ease—later followed by the usual syndrome of pain, or burning distress, gas, sour eructations and vomiting of sour mouthfuls of varying quantities, all these being at their worst from two to five hours after a meal.

Following this period of attack comes an intermission of days, weeks, or months, appearing, often, as unaccountably and as suddenly as did the distressing symptoms. These attacks recur at irregular intervals for years and continue for varying periods, increasing in intensity perhaps but slowly, the intermission shortening, until finally, the patient may fail to reach at any time that complete ease of previous years. Early in the period of disturbance and often for years, the interval is one of perfect health and, after the symptoms have disappeared, the patient soon reaches his normal condition. Yet again, it may be only a partial remission; the patient never quite attains normal, or his "good days" may be only days of moderate ease. The appetite is usually good until complications have changed the character of the symptoms, at which time it becomes necessary to examine carefully into the early history in order to arrive at a logical diagnosis.

These periods of complaint with the periods of intermission, each covering days or months, are so char-

* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

acteristic, that, excluding other details, this one feature is often sufficient to warrant a probable diagnosis.

However, periodicity is not of itself peculiar to ulcers of the stomach and duodenum. The character of the attack must be considered carefully. Gallstone and appendiceal colics recur irregularly, often increase in severity as attacks multiply, may, and often do appear suddenly and without known cause. All three have one feature in common: each attack is but a part of the usual round of trouble, and the intermission is but a part of the cycle. In the latter case no more than in the former may this quiescent period be regarded as that of cure.

LENGTH OF TIME THE SYMPTOMS HAVE PERSISTED.

Scarcely less prominent than the periodicity of attacks is the number of years the illness has been manifest before surgical relief has been advised, or perhaps should be advised in many cases, for at first most of these cases are medical and the conservative surgeon does not lay bold hands on them.

However, as one's experience lengthens he is inclined to the belief that error is much oftener to be laid at the door of conservative surgery than at the door of aggressive surgery, and for this reason the sufferer too often fails to get that ready and early relief which is secured only through surgery. In a series of 258 duodenal cases, there are but few with histories of duration of less than one year, and in these the symptoms were clear and often urgent. Usually the history shows that the disease has run from 5 to 20 years and not infrequently to 30 and 45, the average being just short of 12 1/2 years. Considering the facts of the long series of years with distressing symptoms always promising increase, and as years go by, with invalidism increasing, marked or complete, it seems strange, not that so many patients are urged to seek surgical relief, but rather why surgical measures are not advised sooner, or at least as soon as complications appear which indicate that the medical border line has been passed.

In the series here mentioned, this history of repetition of attacks with intermissions or remissions, together with long years (average 12 1/2 years) of trouble has been clear cut in about 90 per cent. of the cases. This should quiet the most conservative internist who feels that surgery is too "freely and flippantly" advised.

SIGNIFICANCE OF PAIN.

Pain in gastric ulcer is the most constant symptom and perhaps the most characteristic in its manifestations. Not the kind of pain, not the location of the pain, but the time of the pain is the distinguishing feature. It varies from mild distress to that of great intensity, and, unless complications have introduced great modifications, its appearance, control and disappearance, are almost if not quite the final evidence required for a correct diagnosis. The pain appears sometime after meals; oftener it is as nearly exact to say before meals. Usually in from two to five hours after a hearty meal the burning, gnawing feeling begins, increasing in intensity until vomiting or irrigation has removed the acid-offending material. Food eases the pain, the heartier the meal the longer the relief. Especially is this true in the history of duodenal ulcer. Gradually, however, this relief lessens, until late in the history and after the patient has been long a "surgical case," food eases but little. When complications (perforations, adhesions, obstruction) are far advanced, food gives no ease and distress follows its ingestion. At this stage relief comes only after ridding the stomach of all offending material by irrigation or forced vomiting.

The pain comes, then, in definite periods of attack; comes daily, or two or three times a day, during this period; comes from two to five hours after meals and is therefore premeal as often as it is after-meal in time. It is epigastric, radiating seldom to other areas, and, except in the later stages is relieved in part, at least, by food, drink, alkalies, vomiting and irrigation. The kind of pain depends on the pathologic condition. It may be burning, gnawing, lancinating, boring—cutting (apple-core sensation) or the felling pain of perforation

Locating an ulcer of the peptic tract from the area of pain as given by the patient is perplexing and often very uncertain. Most of the pain is epigastric, let the lesion be where it may, but the lower the lesion, the oftener is the sensation of pain to the right of the median line, and some ulcers, especially the duodenal variety, give characteristic findings. The longer food gives comfort, other things being equal (as duration of time of disease, extent of trouble, obstruction, etc.) the farther down is the ulcer situated, so that in duodenal ulcer, especially in the early days of its history, food gives relief for a longer time than when the ulcer is located higher, i. e. in the stomach proper. Following this period of ease, the characteristic ulcer symptoms return, of gnawing, boring even to extreme pain, with gas, sour eructation, vomiting of various amounts and intensity, dependent on obstruction and extent of lesion.

There is, however, a pain of the cardia comparable to the boring of a bared apple core, very distressing, foreboding and sickening which may be present when the lesion is purely pyloric or duodenal, and is doubtless present at times when acidity is high but purely a functional disorder or due to dietetic error. This pain is brought about by reverse gastric peristalsis, acidity, ulcer, then spasm of the pylorus followed by reverse peristalsis. If the sufferer belches or vomits with difficulty the annoyance amounts to real pain, and fear of cancer is prominent. These pains come in wave periods of a few moments, and relief follows suddenly and completely at each wave if gas and sour eructation be copiously raised, or the pain gradually recedes to almost quiet, if belching, eructation or vomiting is impossible. These wave pains repeat until the stomach is relieved by measures that empty it, or they yield readily to sufficient alkalies.

It is seen, therefore, that difficulties arise, and that the most careful attempts at ulcer location fail, but until obstruction is advanced or the lesions large, the best evidence for ulcer localization is the length of time that food gives relief.

Most of the ulcers of the stomach and duodenum (and this is true independent of location) have a longer or shorter spell of relief from food, until late in the disease, at which time the early history is necessary both for diagnosis and localization of ulcer.

There are to-day clinicians who persist in the idea that if ulcer of the stomach is present, food gives immediate pain, or at any rate, no sense of comfort even for a short time. This is not true in the great majority of peptic ulcers, let the lesion be where it may.

The great number of ulcers are in the pyloric end, and in this region the symptoms are usually typical until complications arise. We then have to consider the

conditions that alter the character of the pain. They are: First, large areas (saddle ulcers); second, ulcers well toward the cardia; third, cases in which obstruction is advanced; fourth, hour-glass stomach; fifth, perforation; sixth, adhesions to the gall bladder or other organs when these adhesions cause obstruction, immobility, or deformity. In many of the above conditions the patient rarely has any perfect relief, and if there is a brief period of relief it is so soon followed by greatly exaggerated distress that the interval of ease is lost to most of them.

CONTROL OF SYMPTOMS.

All symptoms are usually controlled by the measures directed toward pain. When pain is at its highest, so also is gas, eructation and vomiting. By removing, neutralizing or engaging the acid in the process of digestion, the pain stops, gas no longer forms, vomiting and eructation cease and the patient enters a period of calm, to return to his former distress sometime later. The degree of discomfort depends on the extent of the lesion, the kind of food taken and the care in its mastication. Until complications (obstruction, perforation, adhesions) have advanced, the pain and other symptoms seem chiefly due to increased acidity and spasm. Reverse gastric peristalsis adds to the discomfort. Later, when complications enter for consideration, the real symptoms are obscured, and the physician is often obliged to grope in the dark for an exact diagnosis, unless the patient has a judicial mind and can relate accurately his earlier symptoms.

Again, the course of ulcer, like cancer, may be long latent, and be diagnosed only when some threatening symptom like perforation, suddenly prostrates the patient. If the perforation is not complete, or if only a small amount of septic material escapes, the pain may be of short duration, but intensely sharp and lancinating, simulating so closely gallstone colic that such diagnosis is the only logical one to make. If the perforation is free and the fluid septic or large in amount, the pain is much more intense than in gallstone colic. There is exceeding great shock, much morphin is required to control the symptoms, and early the appendiceal region will be the center of the pain. Later, if the patient survives, the pain will creep to the duodenum and gall-bladder area. Under such conditions one should think of perforating ulcer rather than gallstones or appendicitis.

When, therefore, there are attacks of stomach trouble that run in continuous periods of days or months, with intermissions of days, weeks, or months with more or less freedom from symptoms, these periods recurring and occurring over years of time gradually deepening, the symptoms bearing close relation to food and being controlled or modified greatly by dietetic measures, food, drink and alkalies, we may justly look for ulcer of the stomach or duodenum in a large number of cases.

Purely functional hyperacidity may give symptoms difficult or impossible to differentiate from early ulcer. Appendicitis and more often cholecystitis may run a train of symptoms that will mislead the most painstaking clinician, but these cases are as purely surgical as are typical ulcer cases. Comprehensive surgery finds the source of the trouble and relief is the result. If a mistake is made it should be that of diagnosis only.

DISCUSSION.

DR. WILLIAM J. MAYO, Rochester, Minn.: Acute ulcer is not of itself a surgical condition. It is only when such complications as perforation, hemorrhage, or obstruction occur that the physician should call the surgeon. In regard to chronic ulcerations, while the improvement between the attacks, which may last for days, weeks, months and even sometimes for years, is not by any means complete, it is sufficient to give the internist a wrong idea in regard to the cure of the patient, just as in the early days of appendicitis or gallstone disease. The surgeon considers chronic ulcers only those ulcers with thick callus which can be demonstrated to the bystander within a distance of six or eight feet from the operating table. As a result of operations it has been shown that chronic ulcers are more frequent in the duodenum than in the stomach, and that at least two patients out of three operated on are males. I do not believe that a large percentage of these patients with chronic ulceration will recover permanently under medical treatment. The preoperative stage depends largely on the length of time the patients are able to get along on a reduced selected diet; but among the laboring people one must face the conditions as they exist. The patient must not be cared for medically too long and made to live on insufficient food and ill-prepared food, such as his situation in life affords. Such a patient is disabled when living on a restricted diet, and can be restored to his full capacity for work only by enabling him to live on what he is able to pay for, and to do this operation is often necessary. In 187 resections for cancer of the stomach 54 per cent. of the cancers originated in ulcers. This does not mean, however, that most ulcers undergo cancerous degeneration. Cases with a long history of ulceration more often result in obstruction on the development of cancer than primary malignant disease of the same stage, and it is this early obstruction and not the cancer itself which sends the patient to the surgeon. Chronic ulcer existing over a period of years is, however, a grave menace to the patient because of the possibility of malignant disease grafting on ulcer base. Many people suffer severely from symptoms that may point to ulcer for which they have received no relief; these patients pass from one physician to another, to quacks and "patent-medicine" vendors. In a number of such cases one-half will be non-surgical and can be placed in three groups, namely, cases of atonic dilatation, cases of prolapse of the stomach and cases of gastric neurosis. In examining cases of atonic dilatation on the operating table one finds no obstruction and the wall of the stomach is quite flaccid. Apparently it has not sufficient power to push on the food. Atonic dilatations are not often benefited by surgery. In cases of prolapse of the stomach the *x*-ray plates look like works of art when bismuth is used to map the organ out. Such a prolapsed stomach, however, empties itself quickly; there are no mechanical conditions actually present. I do not know the definition of gastric neurosis. Some of those cases called neurotic years ago have since been relieved of gallstones, appendicitis, etc., and in the future more will be relieved. This "I do not know" group is a large one. The picture is that of a patient with gas, changing secretions, dyspepsia, indigestion, and the stomach will be found thin-walled, dilated, and the duodenum and pylorus dilated as well. It is said that many of these cases are due to pressure of the superior mesenteric vessels on the third portion of the duodenum; but this has not been found true on exploration; as a rule the jejunum and transverse colon are also dilated. At any rate they should not be subjected to operation. In the above series, one-half of all the stomach cases that come to us can be placed.

The remaining one-half of apparently serious gastric diseases belong to the surgeon. One-fifth are cases of gastric cancer; the internist has no business with them. One-fifth are cases of chronic ulcer, and the majority of these belong to the surgeon. Two-fifths are made up of a peculiar and most interesting group of cases in which ulcer has been suspected, but could not be demonstrated on exploration. Gastroenterostomy has occasionally been done and found to be harmful. Later these patients have been found to be suffering from gallstones or an inflamed appendix, tuberculosis or tumor of the

intestines, etc., giving rise to the stomach trouble. The embryology of the intestinal tract explains this; the maintenance of the body is a primitive function which existed before the development of the nervous system. The cerebrospinal system does not control the primitive function, which is still cared for by the internal secretions, etc., which cared for it before the nervous system developed. The acid in the pyloric end of the stomach controls the output from the stomach. The acidity in the duodenum is the more powerful and controls the opening and closing of the pylorus. The stomach in the storage end is a later evolution and a convenience, enabling its possessor to place rapidly a quantity of food into this receptacle for the slower process of digestion, but its control is vested in the parts to be convenienced lying beyond the pylorus, which have the work to do, all derivatives of the midgut. Therefore the control of the pyloric apparatus lies not in the stomach itself, not in the cerebrospinal system, but in the intestinal tract lying beyond the pylorus and between it and the splenic flexure of the colon, which marks the beginning of the primitive hindgut. Therefore, gallstone disease, appendicitis, tumor and disease of the intestinal tract cause closure of the pylorus, and symptoms referable to the stomach arise which in our ignorance we have hitherto treated as diseases of the stomach. The cases comprised in the remaining fifth are surgical, but not fully worked out.

DR. FENTON B. TURCK, Chicago: In carrying out experimental research on dogs I have found it necessary to see the opened abdomen and the evidences of ulcer in order that I might know that the feces used in investigation were actualiy from an ulcer case. Therefore, the observations of the findings, in connection with the symptoms in these cases, have given me some idea of the existing relations and I have not yet found that the clinical symptomatology of the patient helps a great deal in diagnosis. I have seen a great many cases of ulcer of the stomach without any symptoms of pain whatsoever; I have seen cases of hypoacidity and cases of total absence of hydrochloric acid (achylia gastrica). Likewise in experimental animals with induced ulcer more frequently no evidence of pain can be elicited by pressure and there is frequently no increase of acid in the stomach—often a greatly diminished amount. In the patient the feces many times show no evidence of hemorrhage, no occult blood. These conditions I have found paralleled in the dog.

The general or systemic condition of the patient permitting ulceration to take place has not been presented sufficiently. I think that the emphasis placed on a local condition does not represent the true pathology of ulcer. Ulcer of the stomach is not found in those countries where the inhabitants eat rice. It is evidently a meat-eater's disease; the zone of ulcer is in the meat-eater's zone. Ulcer is not found among the natives of China, Japan or India, except in the seaports, which the foreigners have brought into the meat-eater's zone. Certain observations which I made with extract of meat and the colon bacillus to determine the etiology of ulcer were tabulated over a period of ten years. The attempts made on the local mucosa to produce ulcer were negative, while those made in the feeding experiments were positive. I was able to induce numerous ulcers in the duodenum at a point just beyond the pyloric region, and also in the stomach, with perforation and chronic ulceration. The question is, How does the ulcer become chronic? In the production of the acute ulcer I found the autolysis to be continuous and at times anaphylaxis, with no round-cell infiltration (chemotaxis); but in the making of the chronic form, by carefully adjusting the feeding experiments so as to bring about an alternate mild anaphylaxis and chemotaxis, I produced a condition resulting in the chronic ulcer.

DR. J. M. ALLEN, Liberty, Mo.: Seventy-two cases of ulcer of the duodenum are on record. In 1886 an article appeared in the *Kansas City Medical Journal*, in which were reported 86 cases of ulceration of the duodenum and one case of ulcer of the stomach. It is fair to assume that ulcerations in the duodenum can be controlled better than ulcerations in the stomach. By starvation the function of the duodenum can be arrested, but this will not arrest the function of the stomach. Besides, ulcers in the stomach do not come from the same source as ulcers in the duodenum. Ulcers of the stomach depend on an embolus or thrombus of the gastric artery or on an arteriosclerosis; whereas ulcers of the duodenum originate in the results of the passage of acrid, irritating substances through the stomach. Anemia is a predisposing cause of peptic ulcer; so are exanthemata, or anything that causes an acute inflammation of the duodenum. Again, there exists a condition of acute inflammation of the duodenum which passes into the chronic form in which the inflammation passes to the duodenum through the common duct.

I believe that it is a mistake to recommend operation as soon as ulcer of the stomach is diagnosed. In ulcers of the duodenum up to the point that evidences of obstruction from the formation of new tissue or induration occurred, I do not recommend operation unless there is vomiting, especially vomiting of blood. If regurgitation from the stomach is present, then one can say that the ulceration is from one to one and a half inch from the stomach; if beyond this point, evidences will be found in the stools. Blood found in this way points directly to the necessity for operation without delay. So one can reach some conclusion regarding operation. The symptomatology of ulcer of the stomach and duodenum is quite clear. In 1872 investigations were made and a paper written in 1886 was based on clinical histories. A feature connected with this is of great importance, namely, the progressive emaciation always present, the cause of which is the failure to digest the elements necessary for fat and growth—the fats, carbohydrates and sugars. Pain begins two or three hours after the taking of food when the stomach begins to force the food out of it. I think that the duodenum is the great center, the brain as it were, of the abdominal cavity and is associated with a great many reflexes.

DR. BERTRAM W. SIPPY, Chicago: There is an apparent disparity in the statistics of Robitanski, Mayo, Moynihan and others, in regard to the relative frequency of ulcer of the duodenum. I believe that the disparity can be explained thus: Duodenal ulcer is relatively more severe than gastric. The danger of perforation and hemorrhage is greater and the symptoms are more striking and more severe; as a result these cases appear before the surgeon more frequently than do the cases of gastric ulcer, which heals under treatment, or under no treatment. The cases reported by these men include those described as fresh ulcers. It is possible that ulcers in the duodenum might be overlooked; but it is not necessary to assume that all are overlooked. The disparity between the statistics of the surgeons to-day is attributable to the fact that the duodenum is more in the domain of surgery than is the stomach.

In a given case the following should be considered: Is an ulcer present? What complications are present? Is it possible that there is malignant disease at the pylorus? Is there obstruction at the pylorus? Are there perigastric adhesions? Is the pylorus open? Is the gastric secretion present? Is the motility of the stomach interfered with? All these points should be determined in a given case. Then the possible location of the ulcer should be made out. An old ulcer would be indurated. After a careful analysis one should be able to make a diagnosis of the presence or absence of an ulcer and, if any complications exist, whether or not surgical treatment should be instituted. Surgery should be invoked when perforation is present, when a carcinoma is engrafted on the seat of an ulcer, or when medical means have failed to cure. When the motility of the stomach is disturbed by perigastric adhesions or by the hour-glass constriction, one must resort to operation; in certain cases of hemorrhage also. In 15 per cent. of the cases death occurs during the first hemorrhage. In 35 per cent. death occurs within twenty-four to thirty-six hours. Some patients could be saved by surgical interference. I advise against waiting.

DR. ELLIOTT P. JOSLIN, Boston: Dr. E. A. Codman recently published a paper in the Boston Medical and Surgical Journal, in which the possibility of the root of the mesentery pressing on the duodenum was discussed and considered as an etiologic factor in the production of gastric and duodenal ulcer. Dr. Codman's evidence was obtained by injections in the cadaver, observations at operation and clinical studies. In animals the

mesentery hangs vertically, so that there is no obstruction, but in human beings in the erect position the mesentery hangs along the spine and thus could easily compress the duodenum where it crosses it. Statistics on sex and age in gastric ulcer, I believe, should be modified. It is commonly considered that gastric ulcer occurs more frequently in women than in men, and particularly of women of the chlorotic type. During the past few years chlorosis has become a rather rare condition. Coincident with the diminution in cases of chlorosis it is a question whether there will not be a simultaneous disappearance in the disparity of the preponderance of gastric ulcer in the female sex.

DR. G. W. MCCASKEY, Fort Wayne, Ind.: The point brought out by Dr. Graham as to the extreme chronicity of the disease should be recognized. I have seen in consultation a very severe case of hemorrhage which proved to come from a gastric ulcer, and in getting the history the fact was brought out that the first attack had occurred twenty-five years ago. During this interval of twenty-five years there had occurred six, eight or ten attacks. Another patient seen seven or eight years ago had a distinct palpable tumor, and the question arose whether it was a cancer or a central ulcer. The diagnosis was made of an ulcer. The patient is alive and well to-day. I am inclined to believe that we should attach some value to the time of the appearance of pain in making a differential diagnosis between gastric and duodenal ulcer. When food passes from the stomach into the duodenum, then pain was supposed to occur in cases of duodenal ulcer, and I attach much diagnostic importance to this point.

Dr. Mayo, in his discussion of acute gastric ulcer, spoke of hemorrhage as being an indication for surgical interference. I understand that surgical interference in cases of acute hemorrhage is a most hopeless proposition. The great difficulty is to find the bleeding point. The best treatment, in my opinion, would be rest, and not surgical interference. Carcinomatous degeneration of the ulcer, cancer, might attack these indurated ulcers and they should be excised whenever possible. Gastroenterostomy should not be done in these cases.

We should consider chronic ulcer of the stomach as serious as acute ulcer. A certain amount of healing takes place after the occurrence of the indurated scar tissue which is so characteristic of some of the cases. Nothing short of excision will cure them.

DR. JUDSON DALAND, Philadelphia: In chronic ulcer, the one requiring surgical interference, we are often deceived by an apparent recovery—an important point for the internist to consider. A few months ago I had a patient under my observation who presented symptoms of ulcer, but he apparently recovered. In spite of the fact that no symptoms existed, an operation was performed and an indurated ulcer found. There are many such cases of latent ulcer that call for surgical interference. I recall another patient who died from an initial hemorrhage. This case was looked after by a skilled specialist who thought the patient was cured of his ulcer, as there were but few dyspeptic symptoms. The patient was on his way around the world when he was suddenly taken with a hemorrhage and death quickly followed. At autopsy a gastric ulcer was found. The point that I wish to emphasize is that there are many cases of chronic gastric ulcer diagnosed as acute ulcer, the symptoms appearing for a brief time only, but the ulcer remaining for years.

DR. M. MILTON PORTIS, Chicago: The dangers of gastroenterostomy are so great that I believe that one should hesitate a long time before advising such an operation. Two years ago I published a paper in the Annals of Surgery, in which I had collected both the medical and surgical results following a gastroenterostomy. I had been stimulated to do this because of a few cases that fell under my observation. There is no doubt at all that serious dangers follow gastroenterostomy. Jejunal ulcers occur and severe diarrheas which lead to death. There are many other disturbances. Pawlow's and Starling's work throws much light on the disturbances noted. But the strictest indications must be present before one should resort to surgical interference. 'In case a medical man did not want to attend the case alone, let him call in the surgeon in consultation and thus reduce the danger.

DR. CHRISTOPHER GRAHAM, Rochester, Minn.: In differentiating between gastric and duodenal ulcer a good point is that in duodenal ulcer the food gives relief for a longer time. The degree of acidity, rather than the length of time the symptoms have been manifest, determines the severity of attack. The higher the acidity, other things equal, the greater the pain and the shorter the period of food relief.

CLINICAL OBSERVATIONS ON ABSOLUTELY IRREGULAR HEARTS.*

ALBION WALTER HEWLETT, M.D.
Assistant Professor of the Principles and Practice of Medicine, Cooper Medical College.
SAN FRANCISCO.

The recent advances in our knowledge of the cardiac irregularities have enabled us to define their character and trace their inter-relationship with far more exactness than was ever possible before. The absolutely irregular heart,[1] in which all semblance to regularity has ceased to exist, is clinically the most important of the cardiac arrhythmias. It is less common, indeed, than are respiratory irregularities or extrasystoles; but it represents a far more serious condition, and James Mackenzie estimates that over 50 per cent. of all serious insufficiencies are associated with this irregularity. It is very important, therefore, that we should become acquainted with its characteristics, its clinical significance, and its relationships.

The distinguishing characteristics of the absolutely irregular heart will be discussed under three headings: (1) Absence of normal auricular contractions; (2) the irregularity itself, and (3) its permanency.

ABSENCE OF NORMAL AURICULAR CONTRACTIONS.

This is by far the most important characteristic of the absolutely irregular heart and one that denotes a fundamental change in the heart's activities. Our clinical evidences of auricular contractions, according to Mackenzie,[2] consist of (a) an auricular wave in the apex tracing just preceding the ventricular wave, (b) an auricular wave on the jugular and liver pulsations, and (c) the presystolic accentuation of the murmur of mitral or tricuspid stenosis. To these might be added (d) the presence of an auricular wave on the cardiogram obtained from within the esophagus,[3] and (e) the auricular wave on the electrocardiogram.[4] By none of these methods of examination has it been possible to demonstrate that the auricles contract before the ventricles in absolutely irregular hearts. Mackenzie was the first to insist on this fundamental fact. It is probably to be interpreted as a total auricular paralysis or at least as an auricular asthenia of such a grade that the contractions of this chamber are no longer demonstrable.[5]

The Venous Pulse in Absolute Irregularity.—In the normal tracing taken over the jugular vein the so-called

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

1. This irregularity has been variously designated as the ventricular rhythm, nodal rhythm, rhythm of auricular paralysis, rhythm of the first Stannius ligature, perpetually irregular rhythm, etc.

2. Mackenzie, J.: Abnormal Inception of the Cardiac Rhythm, Quar. Jour. of Med., i, 39.

3. Young and Hewlett: The Normal Pulsations within the Esophagus, Jour. of Med. Research, xvi, 427.

4. Kraus and Nicolai: Ueber das Elektrocardiogramm unter normalen und pathologischen Verhältnissen, Berl. klin. Wcnnschr., 1907, 811.

5. Hewlett: The Interpretation of the Positive Venous Pulse, Jour. of Med. Research, xvii, 119.

c wave, which corresponds in time with the carotid pulse, is preceded by an *a* wave due to the contraction of the auricle (Fig. 1). In similar tracings taken from patients with absolute irregularity the *a* wave is absent and the tracing rises abruptly without any preceding auricular wave (Fig. 2). It is now generally conceded that the first wave on such abnormal tracings, though corresponding in time with the carotid pulse, is not due to a transmitted arterial pulse, but is sent back into the vein from the heart.

I believe that this *p* wave[6] is due to the beginning of ventricular contraction. It can be demonstrated in tracings taken directly over the normally acting auricle, either internally from the esophagus[7] or externally when the bony chest wall is deficient.[7] In normal jugular tracings this wave is greatly diminished or absent because it is taken up by the diastole of the auricle; but when the auricular systole is absent, it is transmitted back through the filled auricle and becomes a marked feature of the venous pulse.

Mackenzie believes that this wave is due to a contraction of the auricle simultaneous with that of the ventricle. It seems to me, however, that such an interpretation is unnecessary. When the auricle is known to contract simultaneously with the ventricle, as is the case in certain extrasystoles, the succeeding *v* wave is taken up by the dilating auricle and is diminished in size.[5]

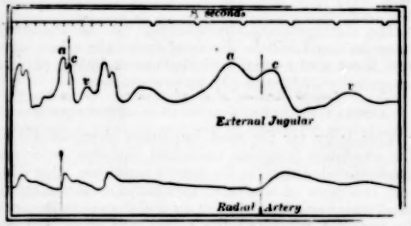

Fig. 1.—Normal venous pulse, showing the *a* wave preceding the *c* wave.

Such is not the case in absolute irregularity; but, on the contrary, the *v* wave is nearly always of unusual height. For this reason, especially, I believe that we are dealing here with a condition in which the auricle is motionless, or at least so nearly so that it does not affect the venous pulse.

A fourth venous wave, which occurs normally in late diastole, has been described by Hirschfelder, Gibson and others. A similar wave is occasionally very pronounced in cases of absolute irregularity. In some instances it seems to precede the next ventricular systole, and it might there be mistaken for an auricular wave. But, as a rule, it bears a constant time relation to the preceding ventricular systole so that it may be said to follow that rather than precede the next contraction.

Mitral Stenosis Murmurs in Absolute Irregularity.—Mackenzie has called attention to the remarkable change that takes place in the murmur of mitral stenosis when the heart assumes an absolutely irregular rhythm. The characteristic presystolic accentuation heard ordinarily is caused by the contraction of the auricle which increases the rate of blood flow through the constricted mitral orifice just previous to ventricular systole. When such a patient develops an absolutely irregular rhythm the mitral stenosis murmur may disappear entirely. If it persists it loses its presystolic accentuation. For the past two years I have paid particular attention to mitral stenosis murmurs in patients with absolute irregularity, and I have never heard a presystolic accentuation under these circumstances. The change from the normal was particularly striking in the case of a patient who suffered from mitral stenosis with short paroxysms of irregularity. Ordinarily her heart was perfectly regular, and at such times her venous pulse was of the normal type (Fig. 3) and the murmur typically presystolic. From time to time, however, she suffered from short paroxysms of complete irregularity (Fig 4), during which her murmur lost its presystolic accentuation and

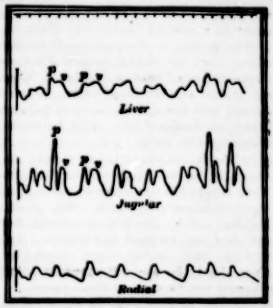

Fig. 2.—Venous and liver pulses of absolute irregularity, showing the absence of auricular waves.

Fig. 3.—Normal type of venous pulse observed between the paroxysms of irregularity. The shading indicates the intensity of the mitral stenosis murmur. Figure reduced one-half.

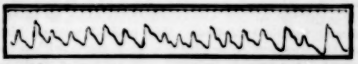

Fig. 4.—Radial tracing during the paroxysm of irregularity. Figure reduced one-half.

her venous pulse became of the type ordinarily met with in absolute permanent irregularity (Fig. 5).

The absence of the presystolic accentuation of the murmur of mitral stenosis during absolute irregularity is a matter of decided diagnostic importance. Physicians should recognize the fact that a typical murmur at such a time is not to be expected. I could cite several case histories in which a mistake might have been avoided had this fact been kept in mind. In such patients the murmur, if present, is often heard throughout diastole. Frequently it has an early diastolic accentuation owing to the more rapid flow of blood through the narrowed orifice during the earlier and more rapid part of ventricular dilatation.

6. Mackenzie's *a'* wave. A similar wave on the normal venous pulse has been called the *a* wave by Bard, the *h* wave by H. E. Hering, and the *b* wave by Piersol.

7. Erlanger: Cardiograms Obtained from a Case of Operative Defect in the Chest Wall, Johns Hopkins Hosp. Bull., xvi, 394.

CHARACTER OF THE IRREGULARITY.

In typical cases of absolute irregularity the heart action is totally devoid of any semblance to regularity, a so-called delirium cordis. No two waves are of the same duration; rapid beats are followed by longer ones, and these in turn by a bewildering succession of pulse waves of varying duration and intensity. On auscultation over the heart the rhythm is often even more confused, for many of the shorter systoles produce no palpable radial pulses nor even second aortic sounds. Frequently we remark on the discrepancy between the number of heart beats and of pulse beats. The term delirium cordis expresses the extreme lack of rhythm. In other patients, however, the heart is comparatively slow, especially after compensation has been somewhat restored. I have seen it fifty-five per minute. The pulse is then fairly regular and every heart beat reaches the wrist. It may even, as in one of my cases, be perfectly regular for a time, though showing an absence of the *a* wave on the jugular pulse. Under these circumstances, however, the regularity is only transient and any light strain leads to a more or less definite delirium.

PERMANENCY.

The absolutely irregular rhythm is one of the most persistent arrhythmias. When once well established, it

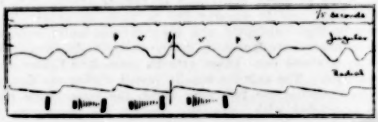

Fig. 5.—Venous pulse during the paroxysms of irregularity, showing an absence of the auricular waves. The shading indicates the intensity of the mitral stenosis murmur. Figure reduced one-half.

Fig. 6.—Venous pulse on the day following a paroxysm of irregularity, showing the frequent occurrence of auricular extrasystoles. Figure reduced one-half.

usually continues uninterruptedly until the death of the patient. As we have seen, the irregularity varies in degree from time to time and may be diminished by proper treatment. It may even merge into regularity for a while, but qualitatively it remains the same. The evidences of auricular contraction rarely return and slight strain is followed by a more or less marked delirium. The main exceptions to this characteristic permanency are the rather uncommon cases of paroxysmal irregularity, which will be discussed later.

ANALYSIS OF CASES.

Etiology.—This analysis is based on the histories of thirty patients who gave the typical tracings of absolute irregularity with absence of auricular contractions. The notes of these cases were often incomplete because many were seen only on account of the arrhythmia. Of twenty-four in whom the age was given, only five were under 40, fourteen were between 14 and 60, and five were over 60. The heart lesion most frequently encountered was mitral insufficiency. This occurred alone in ten cases, and associated with mitral stenosis in five more. Mitral stenosis alone was present in two cases, aortic lesions in three, and adhesive pericarditis in one. The remaining eleven cases showed no definite signs of valvular disease, and largely on account of the symptoms and character of the pulse they were designated as myocardial disease.

Among the etiologic factors in the past histories rheumatism stands pre-eminent, being present in twelve patients. The next most frequent factor, apparently, was the abuse of alcohol, being very marked in ten patients out of the thirty. Hyperthyroidism was the only demonstrable cause in two patients, chronic nephritis in one, while arteriosclerosis was noted in a number of others. It will be seen from these figures that absolute irregularity is most frequently associated with mitral valve disease, especially mitral insufficiency. It appears, however, to be relatively uncommon among younger patients, being more frequent in those over 40. Diseases that are known to cause changes in the heart muscle would also seem to be important causes of this irregularity, especially the abuse of alcohol, marked arteriosclerosis and hyperthyroidism.

Symptoms.—The symptoms of these patients represent all grades of heart failure. In the more severe types, dyspnea, edema and effusions into the serous cavities were common. About a third died or were permanently and totally incapacitated for any effort. In the less severe types the symptoms were less marked. Indeed in two patients no symptoms whatever were complained of. One of these worked as a gardener without any apparent inconvenience except on extreme exertion. The other was a prospector who boasted of his ability to endure hardships and long excursions into the mountains. It is apparent, therefore, that a moderate degree of irregularity associated with auricular paralysis is not enough in itself to cause severe symptoms. This seems to be especially true when the irregularity is unassociated with valvular disease.

Fig. 7.—Tachycardia with positive venous pulse before strophanthin injection. Figure reduced one-half.

Fig. 8.—Pulse from the same patient as Figure 7, after the strophanthin injection; a typical absolutely irregular pulse.

On the other hand, it undoubtedly adds to the gravity of the situation. The circulation can not be so good when the heart is contracting irregularly. The effect of the auricular paralysis independently of the irregularity is difficult to estimate, but Henderson's studies[8] would seem to indicate that the auricles play a less im-

8. Amer. Jour. Physiol., xvi, 325.

portant part in the normal filling of the ventricles than is generally supposed. The effect of the irregularity is well illustrated in the case of paroxysmal arrhythmia already referred to, for the paroxysms caused this patient to suffer from precordial distress and decidedly increased dyspnea on exertion.

Relation to Tricuspid Insufficiency.—The relation of absolute irregularity to tricuspid regurgitation is of great importance, but it can not be defined with exactness at the present time. That many of these patients do suffer from tricuspid insufficiency is evidenced by the typical murmur, the positive plateau on the venous pulse, and the positive pulsations of the liver. In not a small number, however, especially after compensation is moderately restored, the liver ceases to pulsate and no murmurs whatever can be heard over the heart. In such cases the only possible evidence of tricuspid insufficiency is the positive venous pulse. Since the time of Riegel's[9] paper in 1881 this has been regarded by many as a pathognomonic sign of tricuspid insufficiency; but, in my opinion, we are not justified in diagnosing tricuspid insufficiency in such cases, for the abnormal venous pulse may be explained solely on the assumption of an auricular paralysis.[5]

Enlargement and tenderness of the liver was noted in a large proportion of my patients. In many the liver could be felt at the level of the umbilicus and pulsated vigorously during the stages of broken compensation. As compensation returned the tenderness and pulsation often diminished or disappeared and at the same time the liver became smaller. Most, if not all, of these cases were associated presumably with tricuspid regurgitation.

RELATION TO PAROXYSMAL IRREGULARITY.

Delirium cordis may occur in paroxysms which last but a few hours or days. The subject has been reviewed recently by Cushny and Edmunds[10] and by Hornung.[11] The following case presents a good example of this form of irregularity:

History.—Mrs. B., aged 55, was referred to me on account of an influenza and a right-sided hemianopsia. Her family history was negative. She had suffered from four attacks of facial paralysis at different times in the past thirty years, the first being on the right side and the remainder on the left. The last occurred in 1906 and was very mild. She never had acute articular rheumatism. In June, 1906, she was treated for heart disease, which became so bad a month later that she was unable to sleep in a recumbent position on account of dyspnea. Since then she had had several moderate breaks in compensation with dyspnea, cardiac distress and at times slight edema. In the intervals her compensation had been fairly good. In June, 1907, she was suddenly seized with weakness in the legs. Immediately after the seizure she noticed that the right leg was insensitive to touch, to pinches, and to the heat of a hot-water bottle. The weakness disappeared from the left leg almost immediately, but the right remained weak for several days. The disturbances of sensation also gradually passed off, and at the end of ten days she had completely recovered. Her rectal and bladder functions were not affected. On Dec. 1, 1907, while riding on a street car, she sustained an emotional shock, and her ideas became so confused that she was unable to find her way home without slight assistance. At dinner she noticed for the first time that she was unable to see objects to her right. She also had some headache for the next forty-eight hours, but no nausea or vomiting. I was called to see her Feb. 3, 1908. An epidemic of influenza had been passing through the household and she was suffering from the usual symptoms of this infection. In addition, she presented the typical signs of a mitral stenosis. She was also found to have a right-sided hemianopsia, more marked in the upper quadrant. Subsequent examinations showed a gradual improvement in the fields of vision until when seen the area of total blindness was limited to a small spot in the upper right quadrants of both eyes. Her hemianopsia was probably due to an embolus in the right occipital lobe. Probably also the transient paraplegia was due to a slight embolic process in the lower cord.

Examination.—On my first examination the pulse was 80 per minute and perfectly regular. The mitral stenosis murmur was of a marked presystolic type, with little if any rumble in early diastole (Fig. 3). Three days later, after her temperature had fallen to normal, she complained of precordial distress and felt unusually weak. The heart action was found to be absolutely irregular and about 120 per minute (Fig. 4). The mitral murmur had completely changed its character. Its presystolic accentuation had disappeared, and it was now loudest just after the second sound and in the longer diastolic intervals it practically disappeared before the occurrence of the first sound (Fig. 5). The following morning the heart action was again absolutely regular and 85 per minute, and the murmur had returned to its customary presystolic type. The early diastolic portion of the murmur was almost inaudible. The precordial distress and general weakness had passed away.

Subsequent History.—Since that time the patient has had about seven of these paroxysms of cardiac irregularity, and I have been able to observe her in three of these. These seemed to begin abruptly and were induced more especially by emotional disturbances, e. g., by seeing a dog nearly run down by a street car. Other attacks seemed to follow physical exertion. The attacks usually lasted during the day and passed off during the following night, the termination often being associated with sweating. During the paroxysms the patient felt weak, short of breath on exertion, and suffered considerable distress from cardiac palpitation. Examination of the heart during the paroxysms showed a slight enlargement of the cardiac dulness, and an absence of the presystolic accentuation of the mitral stenosis murmur. Between attacks her venous pulse was of the normal type, with a fairly prominent auricular wave (Fig. 3), while during the attacks no sign of an auricular contraction could be discovered in the jugular pulse (Fig. 5). It seems fair to assume, therefore, that during these paroxysms her auricles had ceased to contract normally.

Cushny and Edmunds[10] have suggested that such attacks may be due to fibrillation of the auricles. In the case of our patient this hypothesis receives a certain amount of support from the fact that on the day subsequent to one attack numerous auricular extrasystoles were observed (Fig. 6), indicating that the auricles were abnormally irritable. Mackenzie believes that such paroxysms may be due to an abnormal irritability of the node at the upper portion of the His bundle, which may take on the function of initiating the cardiac rhythm.

The exciting causes of the paroxysms in our patient were, as a rule, excitement or exertion. Hornung[11] has also noted psychic causes of such paroxysms. In one of his patients the irregularity frequently accompanied defecation, but finally it would be induced when the patient merely started for the toilet. Fr. Müller[12] refers to patients in whom paroxysms were caused by overloading the stomach and were relieved by vomiting or lavage. Although it seems probable from these observations that such paroxysms of irregularity may be induced by nervous influences, nevertheless some other factors are probably present which render certain hearts susceptible to such nervous influences. Hornung emphasizes the ar-

9. Ueber den normalen und pathologischen Venenpuls, Deut. Arch. f. klin. Med., xxxi, 1.

10. Paroxysmal Irregularity of the Heart and Auricular Fibrillation, Amer. Jour. of the Med. Sci., cxxxiii, 56.

11. Ueber atypische tachykardische Paroxysmen, Deut. Arch. f. klin. Med., xci, 469.

12. Müller, Fr.: The Nervous Affections of the Heart, Arch. of Int. Med., i, 1.

teriosclerosis in three of his four patients, and mitral valve disease was present in both of mine.

The relation of such attacks of cardiac arrhythmia to the permanent form of absolute irregularity is probably an intimate one. In my patient the paroxysms were associated with auricular paralysis just as is the case in the typical permanent form. Paroxysms have also been noted in patients who subsequently developed a permanent delirium. One of mine had been admitted to the hospital several years before with delirium cordis. This had disappeared after a few days, as was shown by the radial tracings taken at the time. At present he suffers from typical permanent irregularity.

RELATION TO TACHYCARDIA.

There is a form of tachycardia which is associated with a positive venous pulse with absence of auricular waves. This may be of the paroxysmal type with a normal venous pulse between the paroxysms or it may occur when evidence of auricular contractions is permanently lacking. The latter is certainly closely related to the permanent form of absolute irregularity, and several observers[2] have noted that the two may alternate in the same patient. I have observed a sudden change from tachycardia with a positive venous pulse to the absolutely irregular pulse. This patient who had myocardial disease was given an intravenous injection of one milligram of strophanthin. Within a few minutes his pulse changed from a regular rate of about 150 per minute (Fig. 7) to an absolutely irregular pulse of about 70 per minute (Fig. 8). At the same time his symptoms improved greatly. Since that time his pulse has been for the most part absolutely irregular, though at times it shows a tendency to return to the tachycardia that was present when he was first seen. The relation of paroxysmal tachycardia to the irregularities under discussion is less certain, but Hornung[11] has seen a paroxysmal irregularity pass directly into a paroxysmal tachycardia so that there seems some justification for grouping the latter close to the absolute irregularities.

THE EFFECT OF DIGITALIS AND ATROPIN.

It may be said in general that digitalis and atropin have much the same effect on absolutely irregular hearts as they have on normal hearts. Atropin increases the heart rate and digitalis slows it. Mackenzie[3] is of the opinion that digitalis acts especially on those irregular hearts which are associated with mitral valve disease, but I have seen similar results follow its use in patients with myocardial disease. The most striking digitalis effects are produced by the intravenous injection of strophanthin, for here the change in heart rate occurs within a few hours, and other accessory factors, such as rest in bed, can be eliminated. In addition to slowing the pulse digitalis usually renders it less irregular, increases its size and improves the subjective and physical condition of the patient. In my experience, however, neither digitalis nor atropin have ever caused the pulse to return to a normal character.

DISCUSSION.

DR. ROBERT H. BABCOCK, Chicago: During the last few years Mackenzie's work has revolutionized our ideas of cardiac arrhythmia, and much work has been done by others also. The great difficulty lies in the fact that the use of the instruments by which the heart's irregularity is determined is difficult, and in fact belongs to the expert. It requires an expert to obtain good jugular tracings, as well as to interpret the tracings obtained. The fact remains, however, that we are to depend on the use of instruments in the diagnosis of cardiac disease, not only in recognizing cardiac disease but also to aid in deciding on the therapeutics appropriate in cardiac disease. For it is evident that when there is some serious interference with the transmission of stimulus to contraction from venous sinuses to ventricles with a disturbance in the cardiac rhythm of one kind or another, certain medicines, such as those belonging to the digitalis group, are not beneficial but actually dangerous.

DR. ARTHUR D. HIRSCHFELDER, Baltimore: Paralysis of the auricles was first demonstrated experimentally on animals by von Frey and Krehl in 1890 and subsequently on man by Mackenzie in about 1894 by means of the venous tracings. The absolute demonstration, however, was not really decisive until Dr. Hewlett demonstrated it by means of a tracing from the esophagus. Prior to this it might have been possible for a weak auricular contraction to go on without registering on the venous pulse; but now comparatively small contractions can be recorded in these excellent esophageal tracings. Therefore, it would appear as demonstrated almost beyond a shadow of a doubt. Auricular paralysis is very commonly seen in experiments on animals. In fact one can hardly experiment on exposed hearts without finding paralysis of the auricle at some period or other during cardiac failure. No trace of fibrillation can be seen under these conditions in any part of the auricle. Clinically I can only agree with Dr. Hewlett's findings. I have found transitory periods of auricular paralysis, etc., with absolute irregularity in cases of mitral stenosis; and disappearance of the presystolic auricular rumble at these times. I have been able to obtain the same thing in animals in experimental mitral stenosis. When mitral stenosis is brought about slowly, I have obtained, first, a gradual slowing in the diastolic filling of the heart. After the production of a more marked stenosis diastole was divided into three periods: First, a period of rapid filling; a second period, in which there was a little further filling; and a third period marked by contraction of the auricle. About one-half of the filling of the ventricle was due to this contraction of the auricle, as compared with about one-fifth in the normal heart. The presystolic rumble was loud under these conditions. If the mitral stenosis was further increased, auricular paralysis set in, arrhythmia also appeared, and the presystolic rumble disappeared. In other words, a large part of the filling of the heart was due to auricular systole and also led to a presystolic rumble and later, when auricular paralysis appeared, the auricular sounds disappeared. Clinically, I have been able to find sounds similar to those described by Dr. Hewlett as a diastolic murmur. This was particularly true in one case, in which I was able to hear a soft blowing murmur throughout diastole heard at the apex and along the left border of cardiac dulness, and also just above the angle of the scapula, corresponding exactly to where one would expect to hear if it was produced in the left auricle.

DR. W. S. THAYER, Baltimore: I feel that the term "presystolic" murmur applied so commonly in literature in a general way, to the mitral diastolic murmur, is rather unfortunate. As a matter of fact, heart murmurs heard in mitral stenosis vary greatly in character. 1. One may hear at the apex of the heart a characteristic rumbling murmur limited to that part of diastole immediately preceding systole; that is, to the time of the auricular contraction. 2. The murmur may begin shortly after the second sound with marked presystolic accentuation. 3. The murmur, of fair intensity, may begin shortly after the second sound, which diminishes in intensity during the middle, to increase again at the end of diastole. 4. The murmur may begin shortly after the second sound, disappearing entirely during a good part of diastole and reappearing again at the time of auricular contraction. 5. The murmur may be observed to begin closely after the second sound and to disappear entirely before the period of auricular systole. In all these cases in which the murmur begins in the early part of diastole it is usually ushered in by a slight snap, the so-called "opening snap" of mitral stenosis, probably due to the early tension of the sclerotic and adherent mitral valves. 6. One may hear only the first and second sounds and the opening snap without murmurs. 7. One may

hear *no* adventitious sounds whatever in the long pause. It is then by no means uncommon for a mitral diastolic murmur to occupy a position in the cardiac cycle other than that of presystole.

DR. EDWARD F. WELLS, Chicago: Any one who studies the cardiac rhythms will find them very suggestive, and I have studied them for many years. Some very curious features have cropped out in these investigations. For instance, the heart at one time may have presented a fairly regular rhythm, but as time goes on irregularities of the heart become more common, if not the rule. As pointed out, the paroxysmal character of the arrhythmia may be extremely marked. For example, in tachycardia the rhythm is usually irregular, sometimes very much so. This same applies, but to a much lesser degree, to paroxysmal bradycardia. I have under observation at the present time a man 75 years old with paroxysmal irregularities of the heart; these paroxysms are very profound and accompanied by cardiac distress, coldness of the skin, perspiration, etc. In this case it was noticed several years ago that efforts at vomiting would relieve the paroxysms. Although the pulse is rapid and might be classed as paroxysmal tachycardia, still the irregularity is so great that it belongs to the category of paroxysms of irregularity of the heart. In this patient, aside from marked arteriosclerosis, nothing could be found to account for these irregularities. There are other forms of irregularity, with tachycardia or bradycardia, in which the preceding features were very suggestive. For example, I have under observation one case, a woman, whose occupation requires her to lift heavy objects above her head. Her attacks are frequent and are brought on by this heavy lifting. Sometimes the attacks are short, sometimes prolonged. I have another patient under observation with paroxysmal bradycardia in whom the attacks may be induced by suspended respiration.

DR. R. C. ALLEN, St. Joseph, Mich.: There is one fact that evidently has been overlooked; that is, that many of the symptoms described are often the result of reflex phenomena rather than of organic disease of the heart. I do not refer to any special cases. In many cases it is difficult to draw a line between the many forms referred to, whether they are due to organic disease of the heart or to reflex disturbances or irritation. This is a fact very well illustrated by the last speaker. His cases might have been reflex in origin. I have a case in which there is a purely neurotic cause, a result of reflex irritation. This is a fact which I consider important and worthy of consideration. In these cases of mere tachycardia, with difficulty of respiration, etc., I would place the patient on morphin, bromid of potassium or similar agents, and the symptoms would abate.

DR. G. W. MCCASKEY, Fort Wayne, Ind.: It seems to me difficult to demonstrate positively the occurrence of auricular paralysis. The absence of tracings by the intra-esophageal method is perhaps very nearly conclusive, beyond which it is impossible to entirely exclude weak and inefficient contractions of the auricle. I wish to call attention to the importance of the use of the stethoscope simultaneously with the graphic methods, as well as in the study of presystolic murmurs as a further evidence of auricular paralysis. The stethoscope is valuable in those cases in which the ventricle has apparently failed to contract in consequence of an inefficient auricular contraction or functional impairment of conducting fibers. Where there is no radial pulse and no palpable apex beat by means of the stethoscope, I am sometimes able to distinguish inefficient contractions, which would produce no pulsation whatever.

DR. A. W. HEWLETT, San Francisco: Experimental observations in regard to the production of auricular paralysis with absolute irregularity have been limited to acute conditions, whereas the clinical form of absolute irregularity is chronic and this has not yet been produced experimentally. I agree with Dr. Thayer regarding the various forms of the murmur of mitral stenosis. The presystolic accentuation when present denotes that the left auricle is active. This accentuation is absent when the pulse becomes irregular, thus adding one link to the evidence that shows that the auricle is not contracting to any demonstrable extent.

The prognosis of absolute irregularity depends on whether the condition is a paroxysmal or permanent one. If the former, the attack may be terminated by some obscure reflexes just as it may be initiated by such reflexes. If the latter, I know of nothing which will cure the irregularity. We can merely hope to improve the condition of the patient.

THE RELATION OF ANTICYCLONIC WEATHER TO THE PREVALENCE OF LA GRIPPE AND PNEUMONIA ON THE NORTHERN HEMISPHERE.

WITH SPECIAL REFERENCE TO RECENT EPIDEMICS OF PNEUMONIA IN CHICAGO AND SAN FRANCISCO.*

C. M. RICHTER, M.D.
SAN FRANCISCO.

The report of the pneumonia commission of New York,[1] issued at the end of the year 1905, contains the words: "Our studies have thrown no light whatever on the conditions which determine the onset of lobar pneumonia in apparently healthy persons. Moreover, we have been unable to draw conclusions as to the presence of pneumococci in the lungs during life, or as to the channels by which they gain access thereto." The United States Census Report of 1900 says: "The very fact of an increasing mortality from pneumonia in late years, when general hygienic conditions have steadily improved, would disprove the efficiency of such a course of prophylaxis."

Juergens[2] in a summary of the latest researches on pneumonia refers to the attempts made most recently to discover a positive difference between the pneumococcus of a healthy mouth and that of the pneumonia mouth and asserts the absolute failure to establish a specific character for the pneumococcus of pneumonia.

Where there is still so much darkness I hope I may be pardoned for directing attention to certain conditions of the atmosphere which accompany pneumonia epidemics over the entire northern hemisphere, and to the knowledge of which San Francisco seems to give the key.

Osler[3] says that "cold" has been for years regarded as an important etiologic factor, but that in fact there is very little difference in various state groups of the United States.

Musser and Norris,[4] referring to meteorologic influences, say that "owing to the complexity of the problem, an exact scientific solution of it is still unattained." They add: "Most writers have attributed a predisposing potency to change of temperature."

At the session of the American Medical Association, San Francisco, June 5-8, 1894, I read a paper[5] on the influence of atmospheric pressure on the prevalence of pneumonia. I maintained then that excessively high air pressure appears coincident with epidemics of pneumonia in the northern hemisphere and exhibited charts demonstrating this fact for a number of cities. That paper had been made possible by a study of the different climatic regions of California in their relation to morbidity and mortality from pneumonia.

And so-called "cold weather diseases" were prevalent

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*Read before the San Francisco County Medical Society, March, 1908.

1. Pneumonia Commission: Am. Med., Sept. 23, 1905.
2. Med. Klin., 1907, No. 10.
3. The Principles and Practice of Medicine, 1906.
4. Osler, W.: Modern Medicine, 1907, iii.
5. Influence of Atmospheric Pressure on the Prevalence of Pneumonia, THE JOURNAL A. M. A., 1894, xxiii, 188.

in California, but the cold weather missing, I charted all the different meteorologic factors and the pneumonia mortality figures together for a number of years for the different climatic regions of California, and could thereby establish the fact, that, at least everywhere in California, in the Sierra as well as near the seacoast, there was absolutely no relation between temperature and humidity and such mortality, but a clear relation between periods of high air pressure and such mortality.

One may consider San Francisco as the best city in which to make a research in regard to the influence of weather on disease. Hardly any other large city on the northern hemisphere has as little difference between the mean temperature and mean relative humidity of January and July.

TABLE 1.—METEOROLOGIC RECORDS.

NORMAL AIR PRESSURE.

	Jan.	Feb.	Mar.	Apr.	May	June
Chic.	30.09	30.07	30.02	29.99	29.96	29.95
S. F.	30.11	30.10	30.06	30.05	29.99	29.95
	July	Aug.	Sept.	Oct.	Nov.	Dec.
Chic.	29.98	29.99	30.04	30.04	30.06	30.08
S. F.	29.95	29.93	29.94	30.01	30.08	30.12

NORMAL TEMPERATURE.

	Jan.	Feb.	Mar.	Apr.	May	June
Chic.	23.4	26.8	34.1	45.6	56.1	66.7
S. F.	50.1	51.7	53.6	54.6	56.6	58.4
	July	Aug.	Sept.	Oct.	Nov.	Dec.
Chic.	72.0	70.9	69.2	52.0	38.4	29.3
S. F.	58.3	58.7	60.4	59.3	56.3	51.4

NORMAL RELATIVE HUMIDITY.

	Jan.	Feb.	Mar.	Apr.	May	June
Chic.	81	81	75	71	70	72
S. F.	79	77	78	78	78	79
	July	Aug.	Sept.	Oct.	Nov.	Dec.
Chic.	67	68	69	69	77	79
S. F.	83	85	80	79	75	81

Extreme winter and summer temperatures and extreme cloudiness are not to be feared in San Francisco. The lowest temperature in Chicago is 23 below zero, in San Francisco 29 above, a difference of 52 degrees. On the other hand, San Francisco could easily take the laurels from Chicago as "the windy city" in summertime. In San Francisco ocean winds are prevailing during nine months of the year. Of course it brings ocean sand with it, which we call sometimes an abominable dust. The prevailing wind of Chicago is southwest, but during five months it is northeast; coming from the lakes. San Francisco is not a densely populated city, like Chicago, and enjoys a rather pure ocean atmosphere, very different from the air inhaled in Chicago, New York, London, Paris or Berlin.

It is the presence of the Pacific Ocean and the westerly direction of the winds that insures high winter and cooler summer temperatures for San Francisco. Even Chicago's winter temperatures are somewhat ameliorated by the large area of fresh water near it.

San Francisco has an average of sixty-nine rainy days in the year and Chicago has one hundred and twenty-six. The percentage of possible sunshine is 57 per cent. for Chicago and 63 per cent. for San Francisco.

The second table gives the even temperature and humidity line for San Francisco for every day of the eleven years, 1888 to 1899, in contrast to the lines of pneumonia mortality and air pressure.

These facts prompted me to make a study of the pneumonia epidemics of Chicago and San Francisco for the five years, 1899 to 1904, in their relation principally to air pressure.

Meteorologic observations and figures take the place of experiments, when periodical changes in the atmosphere and their effect on climate are to be investigated. Such research should be more encouraged.

A fundamental difference between low and high air pressure, that is, between cyclones and anticyclones, lies in the fact that during the cyclone the lower air, the ground air, the air that had been with us since the last anticyclone, is ascending into the upper atmosphere, while during an anticyclone the reverse takes place; the air is coming down from the higher levels of the atmosphere.

The anticyclone is represented by a gyration of air that enters at the top and flows out at the bottom. The air is descending almost vertically in the center and shows an outward flow everywhere in the circumference of the anticyclone. The distance of the center of an anticyclone from that of a cyclone is generally about 2,000 miles in the United States and often more than that in Europe. It is not seldom that the entire area of the United States is covered by an anticyclone.

The cyclones travel at the rate of twenty to sixty miles an hour, the anticyclones show a similar speed, which is, in fact, the speed of our railroad trains, and which is the speed with which grip epidemics are said to travel.

Suppose that an anticyclone has its center at half distance between Chicago and San Francisco, then it is clear that some of its center air may travel at this rate 1,000 miles toward San Francisco and some of it 1,000 miles toward Chicago. It is at present assumed that the so-called "wandering" cyclones are rather shallow, extending only about two or three miles upward. They are not supposed to feed the anticyclones with their air, as the anticyclones extend higher.

The continuous procession of such areas of low and high air pressure from a westerly to an easterly direction in our latitudes furnishes the rainstorms and the fine weather periods during the so-called cold season.

The anticyclones sometimes stop wandering. Such anticyclones seem to have a dynamic, not like the rest of them, a thermic origin. They represent a blocking of the higher and lower atmosphere and it seems that cyclones in their neighborhood have no effect whatever on their gigantic mass of air that may cover the area of the United States, or of Europe and Asia together. Such anomalous anticyclones bring generally much higher pressure than their wandering cousins and they last longer.

Without doubt they bring an atmosphere to our lungs quite different in quality from the one coming out of a shallow high. I may say right here that periods of increased activity in the sun bear a certain relation to the appearance of such increase of air pressure on our globe. The sun is practically the sole source of the energy which maintains the movements of the earth's atmosphere. It is the center of a continuous outflow of radiant energy, some of which is appropriated by the earth. This outflow is more or less modified by certain periods of the sun's activity.

One of the greatest living meteorologists, J. Hann, has said only recently that "the problem of weather periods and their connection and dependence on the activity of the sun is one of the grandest and most beautiful problems of modern meteorology."

The highest levels of our atmosphere are more directly affected by this energy than the lower levels, and thus the air that flows down to us during a period of a sta-

tionary anticyclone is modified, according to the special conditions of the sun that may have affected it. For instance, ozone is formed in the highest atmosphere consequent to the absorption of ultraviolet rays; and all know the irritating effect it may have on mucous membranes.

Then again, since radium became known to us, we became acquainted with radioactivity, which is considered now a universal property of our atmosphere. A constant ionization is going on in our atmosphere, due to the radioactivity of our earth and to the work of sun-rays. Radioactive influences seem to be derived principally from the pores of the earth.

Physicists, in following up this matter, find that during cyclones this radioactive influence becomes exceedingly marked in our atmosphere. The ascending air sucks the emanation out of the soil. In consequence negative electricity predominates in our atmosphere.

During an anticyclone the rising of such radioactive emanation seems more or less prevented by the increase of air pressure over the capillaries of the earth. In consequence positive electricity prevails. As we have no special sense for electricity, nor for air pressure and its variations, we do not become aware of the tremendous differences that exist in the air we breathe during different weather conditions. In general, it may be said that during a cyclone, at least during the beginning of one, the air is filled with all the impurities that possibly can be lifted and carried upward from the ground. During an anticyclone the atmosphere coming to us should represent the purest air possible, an air possessing all qualification that the sun's energy may impart. The higher the air pressure, the higher probably is the origin of such air and the more specific is such quality.

How can such relatively pure air be of detriment to our lungs? Has change of air pressure in itself any possible effect on our system? A London physician, Dr. R. Mead, wrote in 1746:[6]

> The whole body, in the heaviest air (30.8 inches) sustains a weight of about 33,684 pounds; in the lightest (28 inches) of 30,622 pounds 5 ounces. The difference of pressure at different times is 3,062 pounds. True it is that the internal air of the human body makes a resistance to that weight, but yet such change of pressure must necessarily have considerable effects. Such effects must of necessity be most visible in weak bodies and morbid constitutions, when other circumstances concur to their taking place, while strong bodies and sound constitutions are little affected by them.

In regard to the effect of electricity on our body, Prof. J. Loeb says that "nature has so safeguarded the electric conditions, and especially the equilibrium of electric forces within the body, that any disturbance of this by external electric force is utterly impossible. We are so constantly placed on varying electric conditions because of alterations in the electricity in the earth and the air, that if this were not the case animal life would be in almost constant danger from the magnetic storms that are so frequent."

But is it true that we are so safeguarded? Was the London physician nearer the truth in 1746, when he had his doubt about weak bodies? Is the terrific morbidity and mortality from pneumonia not perhaps a proof of an insufficient safeguarding?

Dr. W. T. Howard of Cleveland[7] had 35 per cent. pneumonia in 550 autopsies; 6 per cent. were due to primary and 29 per cent. to secondary pneumonia. He says that 50 per cent. of his autopsies on typhoid-fever subjects showed pneumonia.

Any reflex action on the mucosa of the air passages may cause a hyperemia, or such molecular changes in the mucosa that a secondary infection may become established.[8] Whether air pressure or ozonization, or a specific ionization may cause such reflex actions, we do not know. Whether other potencies of the higher atmosphere may influence our health, we do not know.

However, these tables may demonstrate that during a prevalence of anticyclonic weather and especially inside the area of a stationary anticyclone, pneumonia and grip are generally prevailing and sometimes become epidemic.

That temperature, sunshine and humidity are in no relation to the prevalence of pneumonia I tried to prove by the San Francisco table. During the entire period of eleven years from Aug. 1, 1888, to May 2, 1899, there are only two great epidemics of pneumonia in San Francisco and they are representing at the same time the only two periods of excessively high air pressure that have been registered during those years.

About 340 deaths from pneumonia occurred during the continuous nine weeks ending March 11, 1890, and about 380 deaths during the continuous nine weeks ending Jan. 26, 1892. Not before 1890, nor after that year until the summer of 1904—my records go to 1904—has the mortality from pneumonia again reached such figures for any continuous nine weeks in San Francisco.

Of course we may call grip responsible, but then we have to blame excessive air-pressure periods for the prevalence of both diseases.

The increasing population of San Francisco, therefore, can not be blamed for an increase of the mortality from pneumonia. It seemed wise, just for this reason, to compare two cities like Chicago and San Francisco in regard to their pneumonia mortality and their air-pressure conditions. The second table gives a highly interesting problem of pneumonia epidemics.

To make the comparison as direct as possible, I gave on this table the mortality figure of San Francisco five times higher than the actual one, as the population of Chicago was just about five times higher than that of San Francisco during that period. It may be seen without difficulty that there are real epidemics of pneumonia in almost every year in either city; that they are not synchronous; that they are quite different in the figure of mortality in the different years and that these figures are not increasing from year to year; that the mortality of Chicago comes to a very low ebb every summer, except 1903; that San Francisco has a reduced, but still considerable mortality from pneumonia every summer, especially 1903, and that all these epidemics of Chicago and San Francisco are keeping most accurate pace with the increase and decrease of air pressure, as registered in these cities. If we select nine continuous weeks as a time unit of the lowest and highest mortality in either city for the five years, we find the following figures to represent mortality and air pressure:

In this comparison I have included the air pressure figures for the two weeks preceding the continuous nine weeks of lowest and highest mortality from pneumonia during the five years. We have, therefore, the air pressure figures for seventy-seven days and the mortality

6. A Treatise Concerning the Influence of the Sun and Moon on Human Bodies, and the Diseases thereby Produced, London, 1746.

7. The Frequency and Etiology of Acute, Non-tuberculous Pneumonia in a General Hospital, Am. Med., Oct. 28, 1905.

8. Strasser, A.: Erkaltung und Abhartung, Deutsch. Klin., 1903, i.

figures for sixty-three days. It is obvious that this should be done, and it is doubtful whether the air-pressure figures should stop two weeks before the end of the continuous nine weeks of mortality.

TABLE 2.—CHICAGO AND SAN FRANCISCO PNEUMONIA MORTALITY.

	30.2 and above.	29.9 and below.	29.9-30.2
1. Lowest mortality from pneumonia.			
Days with air pressure of:			
Chicago, 9 continuous weeks..... Summer, 1900. Mortality, 18.3 per week.	2 days	11 days	64 days
San Francisco, 9 continuous weeks ..... Summer, 1901. Mortality, 38.2 per week.	none	18 days	59 days
2. Highest mortality from pneumonia.			
Chicago, 9 continuous weeks..... Spring, 1904. Mortality, 148.8 per week.	31 days	16 days	30 days
San Francisco, 9 continuous weeks ..... Winter, 1900-01. Mortality, 137.1 per week.	24 days	13 days	40 days

These examples make it quite clear that it is not the cyclonic, but the anticyclonic weather that is in correlation to these epidemics. Chicago had a mortality of over 19,000 during the five years (256 weeks) and San Francisco of over 20,000 (1,328 cases more). Of course only one-fifth of this mortality gives the actual figure for San Francisco. During the cold period of the year Chicago had an average mortality of 104 per week and San Francisco 100 per week. During the warm period Chicago had 44 per week and San Francisco 58 per week.

Undoubtedly the effect of a high-pressure area may become mitigated or entirely offset by an area of very low pressure following it closely and extending over a longer period. The cyclone would remove the air brought by the anticyclone.

Only the closest study of these tables will give an adequate idea of the difficulty in proving a correlation numerically.

To the meteorologist it is clear that such air-pressure figures are only makeshifts in trying to prove a period. It is impossible to prove by them just where the anticyclone gives way to the cyclone, or when the air in its quality is changing from that of the upper to that of the lower atmosphere. It is impossible to give the proper numerical expression to the value of an anticyclone in contrast to the one of a cyclone. Naturally the two areas merge imperceptibly into one another.[9] But the proposition before us is, in future to prove the character of an anticyclone by the character and quality of its air and not only by figures of air pressure. And this is the point where the research of the medical physicist could set in.

My work necessarily has been on empiric lines, but it leads logically to the assumption that there must be something noxious in the air that comes to us during high-air pressure periods, a noxiousness that is in direct relation to pneumonia and grip.

The proposition demands, it seems, a critical examination of the air we breathe during different air-pressure conditions, less with reference to its temperature, moisture, motion and more as to the quality that is imparted by the radiant energy of the sun, by radioactivity, ozonization or whatever physical quality there may be.

Any investigation of this nature should not be limited to proving a reciprocal relation of certain weather conditions and pneumonia and grip as existing in a city or on a small part of our globe, but should be carried on to prove such relation for at least one hemisphere. The southern hemisphere would necessarily show corresponding conditions.

This is exactly what I emphasized in my paper of 1894 when I pointed to the fact that the limits of high air pressure over the northern hemisphere are at the some time the limits of the prevalence of pneumonia. At that time I exhibited charts, demonstrating this fact, for Berlin, Munich, New York, Cincinnati and San Francisco, covering many years, for instance ten years for Berlin and twenty-two years for San Francisco. Likewise, I charted this correlation for St. Petersburg, London, Paris, Naples, New Orleans, Denver and Salt Lake City but, unfortunately, our great fire did away with all these charts.

Periods of excessively high air pressure appear during certain years and certain months on different parts of our hemisphere. In some years European cities will experience this condition as well as cities of the United States almost during the same month—sometimes only one continent will exhibit this feature.[10]

But epidemics of pneumonia or grip are always developing in consequence. The two greatest epidemics of grip that existed in Europe during the last century were the two of 1833-'4 and 1889-'90 and the entire nineteenth century had the highest air pressure recorded just during those two winters.[11]

I would like to close these remarks with the words of the great clinician, Ziemssen, who, alluding to epidemics of grip and pneumonia, wrote many years ago:

> After all we can not but assume that there must be general conditions, perhaps multiplied by local circumstances, which appear and disappear simultaneously by great expanse of space. Of what nature these influences may be, is perfectly dark. We would not be forced to think of miasm or contagion. We are more led to believe, that fluctuations of other conditions, extending over great areas of the surface of our globe at the same time, furnish an analogy.

CONCLUSIONS.

Pneumonia is not merely a concomitant of the cold weather season.

Its prevalence depends on anticyclonic weather, summer and winter, on the northern hemisphere, and not on low temperature.

There is sufficient reason to assume that the quality of the air of an anticyclone changes in conformity with changes in the activity of the sun and that the prevalence of grip and pneumonia is subject to a specific quality of such air.

9. Henry, A.: Climatology of the United States, 1906.

10. Hann, Julius: Lehrbuch der Meteorologie, ed. 2, 1906.

11. Richter, C. M.: Sonnenflecken, Erdmagnetismus und Luftdruck. Meteorol. Ztschr., 1902, xix.

Sterilizing Action of Sunlight on Hides.—V. Cavacini states that hides containing the germs of anthrax do not as a rule become sterilized by the various factors of the tanning process. He cites W. Koch to the effect that Russian soldiers have contracted malignant pustule from leather used on their uniforms. Sunlight, however, seems to have a direct sterilizing action—hides exposed to sunlight were found sterile after 130 hours of exposure in numerous tests with various pathogenic germs. It seemed to be immaterial whether the hides were moist or dry, and free from hair or not. If the sterilization was not complete, the germs left retained their pristine virulence unmodified. These statements are based on considerable personal research by Cavacini, reported in the *Riforma Medica*, June 29.

TRAUMATIC CERVICAL MYELOMALACIA.

REPORT OF A CASE WITH NECROPSY.*

CARL D. CAMP, M.D.
Clinical Professor of Nervous Diseases at the University of Michigan.
ANN ARBOR, MICH.

In this paper attention is directed to the nature of lesions in the spinal cord, which are produced by traumatism to the spinal column, in cases in which pressure on the spinal cord by dislocated bone is absent or present only for a short time. The diagnosis of such a lesion is difficult, especially when it is, as in this case, practically confined to the anterior horns. It is most important, from a practical standpoint, to differentiate the symptoms from those produced by pressure on the cord and from traumatic hysteria, both of which require materially different treatment. The differential diagnosis between a hysterical and an organic affection may be difficult, but it is even more difficult to decide, in some cases, whether certain symptoms present in a case of undoubted organic disease may not be of hysterical nature. For instance, Claude and Rose[1] report a case in which they make a diagnosis of hysteria combined with symptoms of compression of the spinal cord probably due to Pott's disease. The interest in these cases resides not only in the diagnosis and prognosis, but also in the semeiologic value of certain signs which we usually regard as signs of hysteria.

A case illustrating these points was referred to my service in the hospital of the University of Michigan on Nov. 11, 1907, by Dr. McColgan, of Grass Lake, Mich. The history and pathologic findings were as follows:

History.—A farmer, aged 32, gave a negative family history and previous medical history and denied alcoholic abuse and venereal diseases. On Nov. 10, 1907, he fell about six feet striking his back on the frozen ground. He was not unconscious but said that he could not move his left leg and was carried to bed. About seven hours later he had some vague pain in all four extremities and then found his right leg also affected. He could move his arms as before. Dr. McColgan found that a prominence in the cervical region of the spinal column probably indicated a dislocation of the vertebræ and he was brought to the University Hospital the next day.

Examination.—On examination at the hospital it was found that he could not raise his arms above his head. He was able to flex both forearms but unable to extend them. He could neither flex nor extend the fingers of either hand. He could flex both wrists but could not extend them. The pectoral muscles on both sides contracted but weakly. He could not move the left leg but the movements of the right leg were fairly well performed. The biceps jerks were present on each side, but the triceps jerk was not obtained on either side. The knee jerks were equal though somewhat diminished on each side. The Achilles jerks were normal. Irritation of the soles of the feet produced flexion of the toes on both sides. Sensation to touch was apparently normal over both arms and the chest and abdomen. He said that he felt touch and pin-point more distinctly on the left leg than on the right, but felt pain normally all over except on the back of the left hand and fingers where he was unable to distinguish the point of a pin from the head. No area of anesthesia was made out and he never failed to respond promptly when touched, but all over the body and in both legs he would apparently keep on feeling impressions even though he was not touched, sometimes as many as four or five. He could also be made to feel a touch by suggestion. He had passed urine and feces in bed and said that he could not retain them long. This was apparently benefited by suggestion. There was tenderness of the spines of the fourth and fifth thoracic vertebræ but no deformity of the spine at any part. A radiograph of the spine showed no displacement and apparently no fracture of the vertebræ.

He was reexamined the following day because of complete inability to make any movements in either leg except slight movement in the toes of the right side. He said that during the night he could move both legs freely. Except for added paralysis of the right leg the result of the examination was the same as the day before. No areas of anesthesia were present anywhere. An examination of his heart and lungs was negative. Urine and blood examination was also negative.

On examination made Nov. 25, 1907, the patient said that he felt well. He did not move his fingers. He could not or would not, extend his forearms but he flexed both forearms strongly. He moved the right leg freely and with strength. He was able to contract the adductor of the left leg and the quadratus femoris but produced no movement of the leg thereby. The extremities showed no evidence of vaso-motor disturbance and no atrophy. He said that he felt touch and pin-point equally well over both arms and both sides of the body. On the right side of the body there was an area extending from the sixth rib in the axillary line to the lower edge of the ribs and coming forward almost to the median line in which pin-point and touch were evidently promptly felt and, he said, were felt as accurately as on the other side. But in this area with his eyes closed he invariably referred the sensations to the opposite side. There was no transference from the left to the right. He said pin-point was felt as accurately in the left leg as in the right. No area of anesthesia was made out. The soles of the feet were somewhat hypersensitive. There were a number of places on the back near the sacrum where there were skin abrasions. The knee jerks and biceps jerks were present and normal. Irritation of the soles of the feet caused flexion of the toes on each side. He had no incontinence of urine or feces.

On Dec. 7, 1907, examination showed that the right pupil was larger than the left. He could raise the upper arms to a level with the shoulders and in this movement the deltoid contracted normally. He could flex the arms with normal contraction of the biceps and supinator longus, but the triceps were paralyzed, and he could not extend the arms. He could flex both wrists strongly but extension of the wrists was weak. He could not move the fingers or the thumb. There was marked atrophy of the interossi of both hands; there was some atrophy of both forearms and of the triceps on both sides. The skin was very dry and scaly but not atrophied. The triceps jerks were lost on both sides; the biceps jerks were increased on both sides. The ribs did not move in respiration, breathing being entirely diaphragmatic. He had hypalgesia of the right side from the level of the third costal cartilage on down the body extending all over the right thigh, leg and foot. There was no analgesia in the upper extremities. He felt touch equally well all over the body on both the right and left sides. He still referred sensation to the opposite side when the right side was touched in the above described area on the chest. Sensation for touch seemed to be somewhat delayed in the body and limbs and he would keep on counting even though not touched. The left leg and thigh were decidedly atrophied. Left thigh 33.5 cm. (13¼ in.), right thigh 43.5 cm. (17 in.), left calf 28 cm. (11 in.), right calf 34 cm. (13½ in.). The skin of the left leg was dry and scaly. The skin of the right leg was moist and normal. The knee jerks were present on each side and about normal. He moved the right leg at all points. The left leg remained paralyzed. Irritation of the sole of the foot caused flexion of all toes on the right side, no movement of the toes on the left side. Sense of position was lost in the left hand, present in the right hand. He was a little uncertain about the position of the toes on both sides.

Jan. 20, 1908, the patient showed general emaciation and weakness his pulse being very weak, but his neural condition remained as before. The biceps jerks were large on both sides; there was also a biceps jerk obtained by tapping the small bones of the wrist on each side. The knee jerks were present on each side, about equal and normal. The skin of the extremities was exceedingly dry and was kept greased in order to avoid

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

1. Rev. Neurolog., Jan. 30, 1908.

cracking. Pain was felt very decidedly in the soles of both feet. Plantar irritation caused no movements of the toes on either side. The patient gradually became weaker, developed an obstinate diarrhea, bed sores over the sacrum and trochanters, and died March 12, at 12:45 p. m. Necropsy was held at 2 o'clock the same day.

Autopsy.—Pathologic findings: There were found several fair-sized bed sores over the sacrum and a bed sore over the right trochanter. The body showed considerable emaciation, with localized atrophy of both forearms and both hands. The lungs were crepitant throughout but appeared decidedly small. The heart contained some air. Other organs were approximately normal. The brain showed no gross pathologic change. The spine appeared to be normal but after cutting through the arches of the vertebræ and removing the cord there was noticed a linear fracture in the body of the sixth cervical vertebræ which allowed motion. Apparently there was no dislocation. The spinal cord showed a depression in the middle of the seventh cervical segment and was hardened in formalin for further examination.

On cross section of the cord at the level of the depression (middle of the seventh cervical) the gray matter was seen to be distinctly softened, distorted on both sides. The white matter was uninjured except the anterior portion of the posterior column. Cross section of the spinal cord at the top of the seventh cervical segment showed that both anterior horns contained softened areas. The lesion was slightly more marked on the left side than on the right and extended into the region of Clark's column (?) and intermediolateral tract. The top of the lower third of the sixth cervical segment showed slight softening in both anterior horns. The lower border of the upper third of the sixth cervical segment showed no lesion. The lesion apparently did not extend upward beyond the middle of the sixth cervical segment. Going downward the lesion disappeared in the upper half of the first thoracic segment. Below this level there was no gross disease visible in the spinal cord.

The sixth, seventh and eighth cervical and first thoracic segments were each cut in three pieces and sections made from the top of each of these pieces. Sections also were made from the mid-thoracic and lumbar regions. A summary of the microscopic findings includes: An area of softening in both anterior horns which, in the eighth cervical segment and the lower third of the seventh cervical, caused complete destruction of them and extended a little into the left lateral column and very slightly into the posterior column. There was a slight inflammatory reaction about the blood vessels in and adjacent to the softened areas but for the most part they consisted simply of softened areas filled with fatty granule cells. There was no free blood pigment. Areas of softening extended upward in the anterior horns as high as the middle of the sixth cervical segment and downward as far as the middle of the first thoracic segment. They were situated in the center of the horn on both sides and did not completely destroy them as they contained some normal staining nerve cells. In the eighth cervical segment and the lower portion of the seventh, the white matter in the vicinity of the anterior horns stained lighter by the Weigert hematoxlyin stain and was evidently partially degenerated. Above these segments there was a degeneration in the anterior parts of the posterior column which did not appear to belong to any system but involved the anterior part of the column of Goll and the cornucommissural zone. There was also distinct degeneration in the region of the right direct cerebellar tract and a doubtful degeneration along the periphery of the left lateral column. In the first thoracic segment there was a slight degeneration in the left crossed pyramidal tract and in the comma tracts of Schultz.

AUTHOR'S EXPLANATION.

My explanation of the pathology of the condition is that there was a slight dislocation of the vertebræ pressing on the spinal cord sufficiently to block the anterior spinal artery but not sufficient to arrest impulses in the spinal cord. This dislocation was spontaneously reduced some time before he arrived at the hospital, as it was not present then, but in the meantime a thrombosis of the anterior spinal artery or its branch in the anterior median fissure caused the areas of softening in the parts supplied by those vessels, namely, the anterior horns and to some extent the adjacent white matter.

I am aware that the usual lesion in these cases of trauma to the spinal column is a hemorrhage into the cord which affects the gray matter more often than the white because of its lesser density; also that the researches of Schmaus show that areas of softening can be produced in the spinal cord of animals by traumatism without the intervention of any such mechanism as I have described. A hemorrhage into the gray matter may have been present in this case at the onset and have been absorbed, but on microscopic examination there was no evidence, such as blood pigment or a cavity, that any such condition had previously existed. Also in the reported cases of hemorrhage the paralysis is more complete and comes on more quickly than in this case. That a traumatic myelitis produced the softening seems to me less probable, both from a clinical and pathologic viewpoint, than that the softening produced the inflammatory reaction which was present. The fact that it was practically confined to the anterior horns of only three spinal segments is, to my mind, much in favor of the latter. Whether it was a hemorrhage or myelitis it seems to me that one of the important points in the pathologic findings was the location of the lesion in the center of the cord, where totally inaccessible to operative procedure; and the destructive nature of the lesion which for another reason would contraindicate an operation, by the impossibility of making a cure.

DIFFICULTY OF DIAGNOSIS.

The diagnosis of the condition present was not free from difficulty until the atrophy of the paralyzed muscles in the hands. On admission clinical examination and skiagraphs showed no apparent injury to the vertebræ. This, no doubt, was due to the fact that in an ordinary dorsal position the unbroken arches prevented apparent deformity, and pressure on the spine was not painful at this point. There was no increased motility or ecchymosis. The condition present in the bones in this case, fracture of the body of the vertebra without injury of the spines or arches, is not often described, though self-reducing fracture is not rare in the cervical region of the spine.

We have no clear history of previous hysterical condition in the patient, but hysteria is a common condition in our clinic among the agricultural classes of Michigan and Indiana. The traumatism was not severe. The paralysis was peculiar inasmuch as it apparently advanced and receded, and was of a peculiar distribution for an organic lesion of the cord; both forearms and one leg seemed to be the seat of permanent paralysis, while the paralysis of the other leg apparently appeared one day to disappear the next. The biceps, knee and Achilles tendon reflexes were normal on each side.

There was no Babinski reflex, but we would not have relied on it to make a diagnosis of spinal cord injury, since it is so frequently found absent even though the spinal cord is severely injured. J. J. Thomas[2] reports cases in which the plantar reflex was retained even though the spinal cord was completely severed and refers to such conditions as not uncommon. Allen[3] says

2. Five Cases of Injury of the Cord from Fracture of the Spine, Med. and Surg. Reps. Boston City Hosp., 1900, xi, 1.
3. Injuries of the Spinal Cord, with a Study of Nine Cases with Necropsy, THE JOURNAL A. M. A., March 21, 1908.

that "unquestionably the majority of cases of complete transverse lesion reported have abolition of the plantar reflex." The cases reported by Potts[4] of traumatic cervical hematomyelia and complete division of the spinal cord had normal plantar reflexes. It will be seen, therefore, that at present the condition of the plantar reflex has but little clinical value in these cases. Probably more factors enter into it than are at present understood.

AN APPARENT HYSTERIC ELEMENT.

The changes found on examination of the sensation were regarded at the time as probably hysteric. No area of anesthesia or analgesia was present at the first examination. On the back of the left hand and fingers he called the point of a pin the head, and there was apparently a hypalgesia of the right leg. The patient while responding to all touches promptly, would at times keep on feeling touches after the examination was finished; whether this was due to suggestion or to so-called after-sensations can not be definitely stated, though it appeared to be due to the former. It will be evident that at this stage none of the symptoms were incompatible with a diagnosis of traumatic hysteria.

Such a diagnosis was rendered more probable at an examination made a few days later by the discovery that in a localized area he had the interesting symptom of allochiria, a transference of sensory impressions from one to the opposite side of the body. This was apparently a true allochiria, since there was no other error in localization. This symptom, the precise diagnostic value of which has been recently written on by Ernest Jones,[5] is considered by him as always due to hysteria. Obersteiner[6] was the first to describe and name this symptom. In his original definition he seems to exclude cases where there is a general defect in localizing sensation which when sufficiently great might cause an error as to which side of the body is touched, but it is doubtful whether Obersteiner really made this distinction in his cases.

This condition is now named by Jones alloesthesia or false allochiria, meaning thereby simply such a severe defect in sensory localization that the point touched or otherwise stimulated may be erroneously located by the patient on some point on the opposite side of the body. True allochiria exists only when the localizing sense is intact, except that the patient refers the stimulus to a corresponding point on the opposite half of the body. Jones publishes a very complete analysis and bibliography of the cases of true and false allochira, and according to him there are only forty-one cases of sensory allochiria on record, of which only twenty-nine can be considered as cases of true allochiria. These were reported by Obersteiner, one, 1881; Ferrier and Debie, each one, 1882; Hammond, one, 1883; Magnin and Féré, one each, 1888; Janet, one, 1890; one by Weiss, 1891; two by Bose and one by Kerr, 1892; one by Gay, 1893; eleven by Sollier, 1897; one by Lapidous, 1899; three by Trapieznikow, 1901, and one by Sabrazès and Bousquet in 1905. To sum up, out of these twenty-nine undoubted cases of true allochiria, in twenty-six there was no reason to suppose that any other condition besides hysteria was present; in the other three, cases of tabes hemiplegia, and diphtheric paralysis, there was reason to suppose that hysteria was present in addition to the organic affection.

In conclusion, I wish to emphasize my explanation of the mechanism of production of the lesion found in the spinal cord. I would also call attention to the difficulties in the early diagnosis between hysteria and an organic affection of the spinal cord in a case, such as this, in which there was no anesthesia and with normal reflexes and in the presence of allochiria. Finally, while there are numerous cases in which necropsy show that an operation on the spinal column for the relief of a traumatic condition would have been useless, this is such an excellent illustration of the point that I simply call attention to it.

300 South State Street.

4. Jour. Nerv. and Ment. Dis., 1905, xxxiii, 359.
5. Brain, 1907, cxx, 490; also Lancet, Sept. 21, 1907.
6. Allochiria, a Peculiar Sensory Disorder," Brain, July, 1881, 153.

DISCUSSION.

DR. J. J. THOMAS, Boston: One lesson that I should like to draw from this paper is that not all cases with hysterical symptoms are cases of hysteria. In a paper I published recently I called attention to a case of organic hemiplegia in a child, in which there were distinct hysterical symptoms that appeared and disappeared. There was contracture on the paralyzed side by which the foot was drawn down, so that the top of the toes touched the ground. Under suggestion this symptom was made to disappear. Frequently, in other cases besides those of multiple sclerosis, where we know hysterical symptoms appear, we get combinations of hysterical symptoms with organic disease; and that fact we can not be too careful to bear in mind. In the cases which I have seen, injury to the spinal cord in which it is impossible to detect either fracture or dislocation of the spine, is the rule. In a number of cases which came to autopsy at the Boston City Hospital, I persuaded the pathologist to remove a portion of the spine, and we could find the dislocation, the seat of injury of the bones, only when the spine was sawed in two lengthwise. It is the rule in injuries to the spinal column not to find dislocation or crepitus, and one has to make very frequently the diagnosis of injury of the spinal column from the injury to the spinal cord. Myelomalacia from dislocation of the spine is rather rare. Hemorrhage is much more common; yet that hemorrhage, in a number of cases which I have seen, is often at a great distance from the actual point which could have been compressed by the dislocation. I have found it as far removed from the point which was crushed as the fifth or sixth segment.

DR. FRANK R. FRY, St. Louis: I believe that traumatic cervical cord lesions are by all odds the most difficult of the traumatic cases to diagnose. We can never be sure from an *x*-ray picture as to everything that has happened. We may see a displacement of the bone in that way, but we can not tell what effect that displacement has had on the cord. As Dr. Thomas has said, we have to make the diagnosis of lesion of this cord from the nervous symptoms, irrespective of the degree of injury that seems to have been inflicted on the bone as revealed by an *x*-ray picture or otherwise. Some years ago I took the ground rather emphatically that we ought to operate in these cases when there is evidence of an important injury; that we ought to cut down if there were a fair opportunity to do so soon enough and investigate. I have seen a number of cases that impressed me that way. I do not see how we are to determine what has happened to bone except by a surgical investigation of this kind. We do not find it out reliably by an *x*-ray picture. We find out certain things, but that is not always convincing, or should not be. I believe that lesions of all kinds in the cervical region are particularly predisposing to hysteria. I have seen them so often.

DR. WILLIAM W. GRAVES, St. Louis: I can hardly agree with Dr. Camp in the idea that the variability in symptoms which seems to have been the main point leading him to suspect a hysterical condition in his patient, could be accounted for only on a hysterical basis. In the very beginning such an assumption might have been warranted, but when we consider the case in the light of his pathologic findings, and

when we know from them that there must have been interference with the blood supply in these particular segments of the cords, it is certainly thinkable that the interference with the nutrition of that part of the cord might have been sufficient to bring about variability in the sensory findings; and so, inasmuch as in his case there were absolutely no other evidences of a hysterical condition, and everything from the very beginning pointed really to an organic affection, the assumption of hysteria was hardly justifiable. The symptom of allochiria, while I can not explain it in this case, must be considered as due to some organic affection or to some interference with the function of certain segments of the cord.

Dr. Camp's paper emphasizes another point. There was for a long time doubt and some controversy as to the particular segment of the cord in which the reflex are for the triceps reflexes was located. The lesion found by Dr. Camp microscopically was in the seventh cervical, eighth cervical and first dorsal segments of the cord. Oppenheim in his studies laid particular stress on the fact that the reflex arc is mainly in the last cervical and in the first dorsal segments. Dr. Camp's findings—radial and biceps reflexes, and the absolute absence on both sides of the triceps reflex—confirm the assumption of Oppenheim. These findings pointed conclusively, independently of any other symptoms present, to some interference with certain segments of the cord. Furthermore, disturbance of motility pointed unmistakably to this interference. The individual could make a fist, he could pronate and supinate his forearm; he could flex his arm at the elbow; but extension of the wrist and extension of the elbow were impossible; furthermore, he had another symptom which pointed to the involvement of these segments of the cord, namely, dilatation of the pupil on one side—at any rate, a difference in pupils—so that the findings, even in the beginning, pointed to an involvement of the cord.

I believe that the best indication for surgical interference in injuries to the bony coverings of the nervous system, is always to be found in the consideration of the nervous symptoms present; that however extensive a fracture there may be of the skull, or however much deformity there may appear to be about the vertebral column, those symptoms in themselves rarely warrant surgical interference; but that it is only by a careful consideration of the nervous symptoms that we can determine positively as to whether or not we should interfere surgically.

DR. CARL D. CAMP, Ann Arbor: I can not agree with Dr. Graves when he assumes that the diagnosis between hysteria and organic affection was not difficult. It was, of course, as an afterthought not particularly difficult to see that all the symptoms, or almost all the symptoms, at any rate, might have been due to the lesion found. I can not agree that the triceps reflex is constant. I have found it difficult to obtain in many cases. The peculiar fluctuations of the paralysis and the absence of sensory changes, with the exception of allochiria, in the early stages, would rather point to the conclusion that this was a case of traumatic hysteria. Of course, after the microscopic examination of the lesion and its demonstration as being probably a vascular condition, it is easy to say that the changes in the blood supply might have caused a fluctuation in the extent of the paralysis, but that is still doubtful. I also disagree with the statement that the neural condition is the most important as deciding for or against an operation in these cases. I think that the neural condition (the extent of the paralysis, etc.) has very little to do with deciding for or against an operation. In cases in which the spinal cord symptoms alone are obtained, and in which there are no surgical indications from a clinical or *x*-ray examination, I think that operation is probably contraindicated.

Psychologic Nomenclature.—One of the principal tasks before the Sixth International Congress on Psychology, which is to meet at Geneva, Switzerland, Aug. 31 to Sept. 4, 1909, is the revision of the nomenclature of psychology. It is expected that several sessions will be devoted to the determination of terminologic equivalents in the four languages, English, French, German and Italian.

CEREBRAL ABSCESS.*

EMIL AMBERG, M.D.
DETROIT, MICH.

History.—A local physician told me incidentally that he was treating a girl about 12 years old whose ears had been discharging since soon after birth, and that a few days since chills had set in and the child was very sick. I told him that the child in all probability had a thrombosis of the lateral sinus and that its condition was a very critical one. The doctor succeeded in sending the patient to Grace Hospital the next day.

Examination.—I saw the girl for the first time Sunday, January 19 at 4 p. m. The temperature was 103.2 F., pulse 144, respiration 28; the mother reported a chill at noon and one during the night.

Operation.—I operated immediately, performing a radical operation on the left side and exposing the lateral sinus freely. I removed the thrombus, reaching almost to the jugular bulb, until free hemorrhage occurred from below. Large masses of thrombotic material were removed also towards the torcular Herophili, but there was practically no hemorrhage. Saline solution was administered hypodermically and by rectum.

Postoperative History.—January 20: Chill at 9 a. m., at 10 a. m. the temperature was 104.8 F., at 11:30 a. m., 104.6 F. At 9 p. m. temperature was 97.2 F., pulse 92. Urine examination: Color yellow, sediment none, reaction acid, appearances turbid; specific gravity 1020; albumin absent, sugar absent, epithelium, few squamous; crystals of uric acid.

January 21: Slept well until after midnight, cried at times with pain in the ear. At 7:45 a. m. temperature rose to 105 F., at 10 a. m. chill; appetite reported as good. At 5 p. m. temperature 98.8 F.; at midnight 97.2 F.; had a fair day.

January 22: At 5 a. m., temperature 97.4 F.; at 9, 97.8 F.; at 12 m., 98.2 F.; at 6 p. m., 101. A fair day.

January 23: Had a good night, appetite good. At 5 a. m., temperature 97.6 F.; at 12 m., temperature 98 F.; at 8 p. m., 100 F. Passed a good day.

January 24: Slept at intervals, appetite poor; at 5 p. m., temperature 103.2 F.; at 6 p. m., temperature 99.2 F.

January 25: Good night; at 6 a. m., temperature 100 F., appetite good; at 9 a. m., temperature 100.6 F.; at 11:30 a. m., 104 F.; at 12:45 p. m., 99 F.; at 3 p. m., 100.8 F.; at 5 p. m., 98.4 F

January 26: Had a fair night; complained of headache in the morning. At 5 a. m., temperature 99.4 F.; at 6 a. m., temperature 104 F.; severe chill, delirious; at 9 a. m., temperature 99.4 F.; at 2:30 p. m., 98 F.; at 6 p. m., 97.6 F.; appetite fair to good.

January 27: Restless all night. At 6 a. m., temperature 105.8 F.; severe chill, delirious; at 8 a. m., temperature 101.6 F.; at 11 a. m. patient was taken to operating room and examined; wound at posterior cranial fossa looked grayish; offensive odor; cleaned. Appetite fair to good. At 3 p. m. temperature 102 F., slight chill. At 5 p. m., temperature 104.6 F.; pulse 160; refused supper; did not like the light; complained of pain in left temple.

January 28: Had a good night; at 5 a. m., temperature 99 F.; at 9:30 a. m., 100.6 F.; appetite fair.

Second Operation.—January 28, at noon, I operated again. First I tied the internal jugular vein. It was filled with blood. I opened the middle cranial fossa and evacuated about two drams of not offensive yellowish-green pus which seemed to have been liberated from a well defined, apparently clean cavity. The patient received about 6 ounces of physiologic saline solution hypodermically during the operation, and saline solution per rectum for one hour after the operation. The child left the operating room with a good pulse, although about 125. At 3 p. m. the temperature was 104.2; comfortable since the operation. At 5 p. m., temperature 100.4, at 11, 98.2.

Postoperative History.—January 29: Had a good night; at 5 a. m., temperature 98 F.; at 10 a. m., 97.8 F.; at 2 p. m.,

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98.9 F.; at 5 p. m., 99.4 F.; at 10 p. m., 100 F. Passed a good day.

January 30: Good night; appetite good. At 5 a. m., temperature 99 F.; at 2:30 p. m., 104.6 F.; at 5 p. m., 103.2 F.; at 7 p. m., 97.8 F.; at 9 p. m. (by rectum), 98.2 F. A poor day.

January 31: Slept well all night; quite rational; appetite fair. At 6 a. m., temperature 98 F.; at 8 a. m., 100 F.; at 3 p. m., 96.6 F.; at 6 p. m., 97.2 F.

February 1: Slept well all night; at 6 a. m., temperature 98 F.; at 11 a. m. (axilla), 96.8 F.; at 2 p. m., 98 F.; at 8 p. m., 98.2 F.; at 12 midnight (axilla), 97.8 F. A fairly comfortable day.

February 2: At 6 a. m., temperature 98 F.; complained of a great deal of pain in the head; comfortable after 1/10 gr. morphin had been given hypodermically. At 1 p. m., vomited; at 2 p. m., temperature 99.4 F.; at 3 p. m., nauseated; at 7 p. m., temperature 101.4 F.; at 11 p. m. (axilla), 98.6 F. A poor day.

February 3: A fair night; vomited at 3 a. m.; temperature 100.8 F.; at 6 a. m., 98.2 F.; at 1:15 p. m., 98 F.; at 6 p. m., 99.2 F.; temperature taken each time by axilla

February 4: The child was in an almost comatose condition. At 2 a. m. axillary temperature 99.4 F., pulse 84. Between 6 a. m. and noon repeated spasms; temperature at 9 a. m., 99.3 F., pulse 82; at noon, 99.4 F., pulse 82; at 1 p. m. (by rectum), 100 F.; at 5 p. m. (by rectum), 99.4 F.; at 9 p. m. (axilla), 99.4 F. A poor day. While dressing the wound the absence of discharge was noticed. I thought there must be some retention of pus and explored the wound with a

Fig. 1.—Case of cerebral abscess; about ⅔ of left half of cerebrum, seen from below.

dressing forceps, evacuating a large quantity of foul smelling pus. It now became apparent to me that I had opened a deep seated abscess. The child to our surprise immediately showed signs of somewhat improved mental activity. One of the gentlemen present made the remark that the child's comatose condition was changed into a semi-comatose condition.

February 5: At 1 a. m. temperature (axilla), 100.8 F.; pulse 96; at 6 a. m. (axilla), 101.2 F., pulse 104; at 11 (axilla), 100 F., pulse 96; at 12 patient had a convulsion; at 1:30 p. m. (axilla), 104.4 F., pulse 120; at 4 p. m. (axilla), 106.4 F., pulse 120; at 4:30 p. m. (rectum), 107.6, pulse 142; at 5 p. m. (rectum), 108 F., pulse 160. The temperature kept on rising. At 6:45 p. m. the child died.

We had before us a child suffering from chronic middle-ear suppuration, which in a course of 11 or 12 years had gradually extended into the surrounding tissues. Four distinct pathologic features were present:

1. A chronic suppurative tympano-mastoiditis.

2. An abscess in the region of the dura on the roof of the antrum, being in all probability extra- and intradural.

3. An extended lateral sinus thrombosis.

4. An old deep-seated brain abscess.

While the three first-named conditions were more readily recognized, either by their clinical symptoms or by the findings during surgical interference, the last was somewhat less plain. A severe attack of pain in the head which occurred in my absence one night between 10 p. m. and 1 a. m., and after which the child's condition appeared to change suddenly, seemed to mark the turn for the worse. I might emphasize in this case the repeated attacks of violent pain in the head. Long before, the child had asked her mother why her head should ache when she blew her nose.

I remember having heard of a medical student in a German university who told his associates that he was suffering from an affection of the brain; I do not recollect whether an abscess or a tumor. His friends regarded him as a hypochondriac and teased him. He died, and his assertion was regarded as correct. I admit that our case presented some features which were not interpreted correctly and in time on account of the complexity of the affection. The autopsy was confined to the calvarium alone. The principal findings in the autopsy were pachymeningitis externa, a small thrombus about 1 cm. in length about half way between the knee of the lateral sinus and the torcular Herophili, edema of the brain, an old abscess in the left cerebrum adjacent to the ventricle, showing a capsule, with apparently a rupture into the ventricle. The location of the deep-seated abscess was, of course, a very dangerous one, being directly adjacent to the ventricle.

Dr. G. P. Myers, pathologist to Grace Hospital, reported examination of pus smear January 24: Staphylo-

Fig. 2.—The cerebrum (A) cut at an angle of about 45 degrees; the portion marked with an inverted A shows the cerebrum in practically its normal position.

coccus, *Diplococcus pneumoniæ* and an unknown bacillus. At autopsy, culture No. 1 of rest of thrombus. No. 2 of meninges near opening by operation. No. 3 of right middle ear. Nos. 1 and 2 heavy growth, pneumococcus and colon bacillus. No. 3, very scant growth of same bacteria. No. 3 unreliable because same chisel used to open calvarium used to open right ear.

270 Woodward Avenue.

EXPERIMENTAL PAROTITIS.*

ISABELLA C. HERB, M.D.
CHICAGO.

The most noteworthy study of the bacteriology of mumps is by Laveran and Catrin,[1] who in 1893 described a diplococcus in the exudate which they obtained by aspiration of the parotid gland. They found this diplococcus 67 times in 92 cases; 39 times the organism

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†From the Pathological Laboratory of Rush Medical College and the Memorial Institute for Infectious Diseases, Chicago. This work was aided by a grant from the American Medical Association.

1. Compt. rend. Soc. de biol., 1893, v. 528.

was obtained in pure culture, twice in mixed culture, and 15 times the result was negative. The 15 negative results they attributed to the small quantity of exudate obtained. In 16 cases of secondary orchitis pure culture was obtained 12 times, once with contamination and three times they obtained no growth. The organism was obtained from the blood during the height of the fever 10 times in 15 examinations. Three times pure cultures were obtained from the edema of the overlying tissue of the gland and once from the exudate of a joint. They found it fatal in large doses to white mice. Injections into the testicle produced an inflammation which lasted about eight days.

In 1896 Mecray and Walch[2] examined the saliva from Steno's duct in 10 cases. They found a diplococcus 6 times. In 8 blood examinations they obtained the organism in pure culture 3 times, mixed with the white staphylococcus 3 times, and twice their results were negative. In 1896 Busquet and Feri examined the blood and saliva in 3 convalescents and in 17 patients during the early stages of the disease and found a diplococcus in all the cases.

In 1897 Michaelis and Biem[3] examined the secretion from Steno's duct in 16 cases and obtained pure cultures of a diplo-strepto-coccus in all. Their animal experiments gave negative results.

Fig. 1.—Uniform enlargement of the left parotid gland of a dog on the fourth day after inoculation of the diplococcus into Steno's duct. The skin and muscles have been removed.

In 1906 Teissier and Esmein[4] examined the blood in 45 cases and obtained a diplococcus in 37. The negative results were in those with a light attack of the disease or during convalescence. The organism was obtained 33 times in pure culture, twice with streptococci, twice with a bacillus and 3 times with a coccobacillus. The exudate from Steno's duct showed in 10 examinations 9 pure cultures. The coccus was fatal to guinea pigs and rabbits. Following intraperitoneal inoculations an orchitis developed in 4 of 7 rabbits. In 1907 Korentschewsky[5] isolated a diplococcus from the gland exudate in 21 of 29 cases. His blood examinations gave positive results in 8 of 32 cases. The organism was fatal to mice, guinea pigs and rabbits in large doses. No results were obtained in dogs.

So far as may be judged from the description of the investigators I have cited it appears very probable that they have dealt with the same diplococcus.

I obtained a similar diplococcus from the body of a man about 40 years old who entered the hospital in a moribund condition and died in a few hours. Except the report that he had had mumps no history was obtained. The postmortem by Dr. LeCount showed a right suppurative parotitis, bronchopneumonia and several minor lesions.

The cerebrospinal, pleuritic and pericardial fluids, bile, spleen, lung, testicle and right parotid gland were examined bacteriologically. Cover glass preparations from the bile, pericardial and cerebrospinal fluids showed a rather large diplococcus; the latter also contained a smaller coccus occurring in groups. The pleuritic fluid contained a short bacillus. They were both Gram positive. The *Proteus vulgaris* was isolated from the pleuritic, cerebrospinal and pericardial fluids, the spleen, lung, testicle and parotid gland; the *Staphylococcus albus* from the lung, testicle, cerebrospinal fluid and parotid gland. From the lung, testicle, cerebrospinal and pericardial fluids, bile and parotid gland a coccus was isolated with the following characteristics:

The coccus appears most frequently as a diplococcus, occasionally in chains of 4 to 6 elements, or in small groups. It is round and measures from .5 to .8 microns when about 24 hours old. When several days old it measures from .6 to 1.5 microns. It is easily stained by all the ordinary anilin dyes and is Gram positive. It grows equally well aerobically and anaerobically. It is not motile, has no capsule or flagella and does not form spores, gas or indol. It grows best in a temperature of 37 C. A temperature of 50 C. for three minutes destroys growth, cold inhibits but does not prevent growth when the culture is again placed under favorable conditions. Colonies developed from a milk culture two months old and from agar which was dried till it was broken. While the coccus develops on all the ordinary media, its growth is characteristically slow, the colonies on a 24-hour glycerin agar culture being scarcely visible. I have found by mixing sterilized saliva with agar, as in making blood agar, that an abundant growth is obtained in from 12 to 24 hours. Ascitic agar is also a good medium.

The organism is fatal to white mice, white rats, guinea pigs and rabbits when injected subcutaneously or intraperitoneally. The animals usually die within 24 hours of peritonitis. Those that survive for several days die of bacteriemia. The growth from a 48-hour agar slant suspended in 1 c.c. normal salt solution injected into the testis of rabbits produces an acute inflammatory condition which lasts for 7 to 10 days and then disappears without suppuration, the structure later appearing perfectly normal. On the other hand, animals similarly inoculated with staphylococcus and streptococcus die of peritonitis within 20 hours, while an injection of normal salt solution alone produces no reaction.

The following experiment was made on a medium-sized so-called white-faced ringtail monkey. On February 7, the animal, whose temperature was 100.8 F., was inoculated through the right Steno's duct with the culture from a 48-hour ascitic agar slant suspended in 1 c.c. normal salt solution.

2. Med. Rec., 1896, l, 440.
3. Verhandl. XV Congr. f. inn. Med., 1897, 15, p. 441.
4. Compt. rend. Soc. de biol., 1906, lx, 803, 853, 897.
5. Centralbl. f. Bakteriol., part 1, 1907, xliv, 394.

February 8, temperature 103 F.; slight swelling of the parotid; refuses food.

February 9, temperature 103.2 F.; decided enlargement of the parotid; chews with difficulty, but does not appear sick.

February 10, temperature 101.8 F.; parotid about as it was yesterday; less difficulty in chewing; appetite good.

February 11, temperature 101.2 F.; parotid smaller than yesterday.

February 12, temperature 100.8 F.; swelling of parotid gradually disappearing.

February 13, temperature 100.2 F.; swelling of parotid gradually disappearing.

February 14, temperature 100.2 F.; parotid appears of normal size.

Most of my experiments have been on dogs. These animals seem to react in a characteristic manner to the introduction of the coccus into the parotid gland, while subcutaneous and intraperitoneal inoculations produce no results. Direct inoculation into the parotid gland of dogs causes a swelling of the gland, lasting for 7 to 10 days. The injection of suspensions into Steno's duct produces in dogs a uniform swelling of the parotid gland which begins in from 48 to 72 hours, the gland continuing to enlarge for a few days, when it gradually returns to the normal size. In these animals the temperature during the period of the swelling of the gland ranges from 1 to 1.5 F. above normal; in no case did suppuration develop, and with the exception of difficulty in chewing for a day or two the animals appear to suffer no special inconvenience.

Injections into the duct of mixed cultures of the organism and staphylococcus causes edema of that side of the face and the parotid gland in 3 or 4 hours and abscesses form in 3 or 4 days. In two dogs that survived these injections after drainage of the abscesses the parotid gland was completely destroyed. One dog died on the fifth day of bacteriemia, another developed lung abscesses and died on the twenty-third day.

The following record of a single experimental inoculation of the diplococcus into Steno's duct in the dog illustrates well the changes thus produced in this animal:

February 24.—Small, young, black and white dog. Temperature, 102.5 F. Inoculated into the left Steno's duct with the bacteria from two 48 hours saliva agar slants suspended in 3 c.c. broth.

February 25.—Temperature, 102.5 F. No visible enlargement.

February 26.—Temperature, 103 F. Parotid enlarged. Dog whines when firm pressure is made over the gland.

February 27.—Temperature, 103.5 F. Parotid evenly enlarged and hard. Dog does not act ill, is playful and hungry, but experiences difficulty in chewing.

February 28.—Temperature 102.8 F. Gland about as it was yesterday. Pure cultures of the organism injected developed from aspirated fluid.

March 2.—Temperature 102.5 F. Swelling gradually disappearing.

March 5.—Temperature 102.5 F. Almost no enlargement of the gland.

March 6.—Temperature 102.5 F. Gland appears normal.

Macroscopically, the enlarged parotid gland of inoculated dogs is of uniform firm consistence, the enlargement often reaching many times the size of the normal gland, and the cut surface is pinkish, exuding a slight amount of pinkish, rather turbid fluid. The neighboring lymph nodes are moderately swollen, but there are no gross changes in other parts of the body.

Microscopic examination of the parotid gland at the height of the enlargement shows a uniform infiltration of the tissue with plasma cells, small and large mononuclear cells, and polymorphonuclear leucocytes, the ducts being packed with cells. This infiltration begins in the interacinous tissue.

Examinations of the blood of the inoculated dogs shows a distinct leucocytosis, the increase being largely in the mononuclears.

Shortly after injection of the diplococcus into the parotid gland, the opsonic index of the serum of the injected animal begins to rise, reaching the highest point, about three, on about the fourth day, returning to normal gradually. So far as my observations go, a similar rise in the opsonic index with respect to the diplococcus occurs in human mumps, but many further observations are necessary before final statements may be permitted. Work along these and other lines, including the anatomic changes in the inoculated dog, is now in progress.

CONCLUSIONS.

From a case of mumps a diplococcus was isolated which corresponds in its essential characteristics to the organism obtained from mumps by Laveran and Catrin, Mecray and Walch, and the other investigators cited. Inoculations of suspensions of the diplococcus into Steno's duct in the monkey and in the dog produce an acute, uniform enlargement of the parotid gland accompanied with some slight fever. In the dog this enlargement is the result of an infiltration that consists largely of mononuclear cells, and is accompanied with a general increase in the mononuclear cells in the blood as well as a distinct rise in the opsonic index with respect to the diplococcus. Further studies, especially of the changes and reactions in human mumps, are necessary before it can be said whether or not this diplococcus is the specific cause of mumps.

Clinical Notes

THREE CASES OF IMPERFORATE ANUS WITH RECTOVAGINAL FISTULA.

H. J. WHITACRE, B.S., M.D.
CINCINNATI.

It has been my good fortune to see during the past five years three very unusual congenital defects of the rectum the reports of which cases are appended. The defect in these cases consists in a partial failure of development in the fetal septum which divides the cloaca into a posterior rectal portion and an anterior genitourinary portion. The defect is well illustrated in Figures 1 and 2.

Case 1.—*History.*—C. K., aged 8 months, well-developed female child was sent to me by Dr. Allyn C. Poole of Cincinnati for the operative treatment of a defect of the rectum which had existed since birth. This little patient suffered great inconvenience from this defect. The bowels could be moved only with great difficulty and she often suffered much abdominal pain. Furthermore, there was a constant irritation about the genitalia because of the discharge of stool through the vagina. This irritation had been kept under fairly good control by the mother. The bowels had at all times moved voluntarily, however, and there had been no incontinence.

Examination.—The patient is well developed and well nour-

ished, having the usual amount of adipose tissue for a child of this age. The head, chest and abdomen present no evident abnormalities. On examination of the perineum there is no depression or other evidence of an anus. On separating the labia and opening the vagina an opening into the rectum is found just within the fourchette. This opening is about one-fourth inch in diameter, is pliable and can be dilated. The mucous membrane of the rectum unites and becomes continuous with that of the vagina, with no pouting of the rectal mucosa. While the opening does not seize the finger as does the normal anal sphincter, a sensation of a definite tone is communicated to the examining finger. A curved sound introduced into the rectal opening demonstrates a pouching of the rectum backward, so that there does not seem to be much tissue between the skin at the normal site of the anus and the interior of the bowel. The vagina and the urethra are normal in their anatomic structure and arrangement.

First Operation.—This was performed under ether anesthesia. In view of the fact that the rectum seemed so near to the skin at the usual site of the anus, it was deemed feasible to make an opening here and close the vaginal fistula by suture. Accordingly, a three-fourths inch incision was made through the skin into the rectum and the mucosa sutured to the skin by interrupted catgut sutures. A circular incision

Fig. 1.—Imperforate anus with rectovaginal fistula. Saggital view of the conditon.

was then made around the fistulous opening into the vagina, and the edges were turned into the rectum by interrupted suture tied in the rectum. After a few days, and in spite of irrigation of the rectum to prevent accumulation, the fistulous opening into the vagina reopened. The tube was now removed from the rectum. Within a suprisingly short time the incision in the perineum closed completely and all stool was again discharged through the vagina. Three weeks later a second operation based on a more rational and correct technic was performed.

Second Operation.—This also was done under ether anesthesia. An incision was made in the median line from the lower border of the fistulous opening almost to the coccyx. This incision extended down to the rectal wall throughout its extent. A circular incision was now made around the fistula and the rectum was dissected free from the vagina in front and from the tissues laterally until it presented the appearance shown in Figure 3. Previous experience had demonstrated the fact that the fistulous opening in the vagina was in reality the lower end of the rectal tube, and that there was a certain amount of sphincteric action present, so it seemed rational to suppose that a functional result could be obtained by displacing this opening backward to the normal site of the anus. When the dissection had been carried backward sufficiently to allow this opening to be placed in the desired position at the posterior extremity of the median incision, the mucosa of the bowel was sutured to the skin by interrupted chromic gut sutures. The space between the vagina and this new location of the anus was now closed by suture in a manner entirely analogous to that used in perineorrhaphy and shown in Figures 4 and 5. Figure 4 is not entirely correct. It should show the sutures passing through the loose peri-rectal tissues in the bottom of the wound—just enough to prevent dead space. The closure of the wound in this way gives a perineal body of considerable size and solidity. The bowels were moved on the fourth day and all stitches held. The result was complete at the end of two weeks' time, the bowels were moving daily, without incontinence, and have continued to act in a perfectly normal manner for the past five years. The perineum of this child is somewhat more depressed than is normal, yet it has a normal appearance on inspection. The anal opening is of sufficient diameter, the vagina is normal in

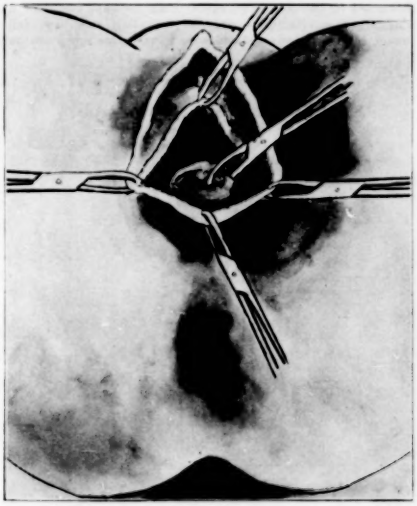


Fig. 2.—Imperforate anus with rectovaginal fistula. The vulva is distended and the vaginal anus is seen just within the fourchette.

its appearance and capacity and the perineal body has remained fairly satisfactory in size. The child is now a fine looking girl 6 years of age.

CASE 2.—*History.*—A. K., aged 5, was admitted to Christ Hospital, Nov. 27, 1906, and discharged Dec. 18, 1906. This patient was referred to me in consultation and for operation by Dr. F. C. Theiss of Cincinnati. She was a healthy, well-developed child, who gave no history of serious illness.

Examination.—Nothing abnormal is to be seen except the congenital defect in the rectum and vagina. On inspection of the perineal region there is absolutely no marking at the usual site of the anus. The vulva is apparently normal in appearance on the outside. The vagina shows an opening on its posterior wall about one-fourth inch in diameter and one-fourth inch back of the fourchette. This opening seems to correspond to the termination of the rectum. There does not seem to be the same considerable pouching of the rectum posteriorly that was found in Case 1. This abnormal opening shows evidence of some sphincteric action, and there is no pouting of the mucous membrane in the rectum.

Operation.—On Nov. 28, 1906, under nitrous-oxid, ether anesthesia, an operation, precisely similar in every detail to that done in Case 1, was performed. The primary result was again very satisfactory, the patient endured the operation well and recovery was prompt. She suffered some difficulty in movement of the bowels for a period of three or four days, about ten days after operation, but this was temporary and did not recur.

Postoperative History.—During the past thirteen months the patient has been perfectly well, has suffered no incontinence, even when the bowels were loose, and has been attending school since Sept. 1, 1907. She was recently presented to the Cincinnati Obstetric Society, and it was agreed by the members present that the anus was in a satisfactory position, that the mucocutaneous junction was satisfactory, that the perineal body was of sufficient size and solidity, and that the vagina presented a fairly normal appearance. I believe that both patients will be able to satisfactorily perform the functions of wife and mother.

Case 3.—*History.*—This patient a new-born baby, was seen eight months ago with Dr. Neufarth of Mt. Healthy, Ohio. The child presented precisely the same lesion that has been described in the other two cases. Inasmuch as the stool was discharged satisfactorily and the irritation was kept fairly under control, it was deemed wise to postpone operation until the child was older. When the proper time has arrived I shall perform the operation that has been described.

Figure 3.

Figure 4.

Fig. 3.—An incision has been made in the median line extending down to the rectal wall; a circular incision has been made around the fistula and the rectum has been dissected free from the vagina in front and from the tissues laterally.

Fig. 4.—Showing the mucosa of the bowel sutured to the skin and the space between the vagina and the new location of the anus closed as in a perineorraphy.

RARITY OF THE CONDITION.

I am prompted to report these cases by the rarity of the condition and by the seemingly insufficient presentation of this subject by the text-books. That the condition is a rare one is shown by the fact that in 1894 not more than sixty cases were found on record by Buckmaster.[1] The rarity is further shown by the fact that in 16,000 cases of obstetrics occurring under Collins at the Rotunda Hospital one case of vaginal anus is noted. Bednar saw but one case in 7,154 girls in his foundling asylum, while Winckel does not recall a single case among 12,000 children who were under his care while director of the Dresden Hospital (Buckmaster). Furthermore, my own experience corresponds with that of Buckmaster, who states that inquiry made among a large number of physicians having extensive practices reveals no cases of this sort. My experience of encountering three cases of this variety within a period of five years is unusual.

A noteworthy fact brought out by a study of collected case reports is that very few successful cases are reported later than a few weeks or months after the operation. A large number of the cases reported are of patients who were not operated on. The failures after operation are to be explained by the fact that all of the earlier operations consisted in simply making an incision down to the rectum at the normal site of the anus and suturing the mucosa to the skin. If the rectum could not be brought down to the skin the wound was packed and this channel was kept open by persistent dilatation. The vaginal opening was either closed by suture or left to close spontaneously.

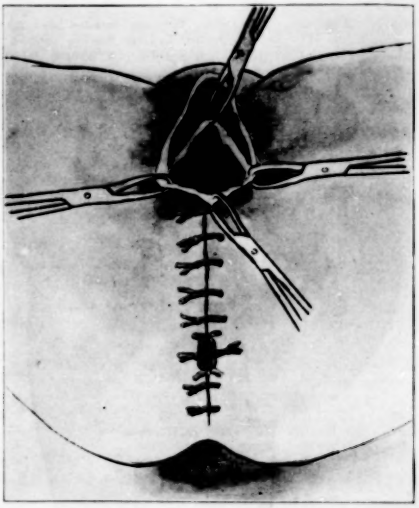


Fig. 5.—Completed operation showing new anus.

M. Vicq d Azyr suggested the division of all tissue posterior to the vaginal opening as far as the normal site of the anus. This suggestion was put into practice by Rhea Barton of Philadelphia. Professor Dieffenbach (1826) made an important step in the evolution of the operation when he made a dissection of the rectum and drew it down to the skin and then repaired the perineum by a later operation. He did not dissect out the vaginal opening, however.

Rizzoli performed and described an operation in 1871 which is practically the same that the author has used. Buckmaster[1] has described an operation which is somewhat more complicated and is adapted to cases in which the opening is higher up and incontinence of feces is present. He provides sphincteric action by drawing the bowel through the separated fibers of the levator ani.

1. N. Y. Med Jour., Aug. 11, 1894.

Dr. Paul Puech (Paris, 1890) has collected all reported cases of this type of imperforate anus, has discussed the subject at length in a monograph and has given a complete bibliographic reference list.

SUMMARY OF THE TECHNIC.

The lesion has been so uniform in the three cases that have been reported that in each case a typical operation was applicable. I consider that the important points in the technic are:

1. An appreciation of the fact that in my cases the vaginal opening was apparently the termination of the bowel.

2. That this fistulous opening into the intestine was supplied with the usual or a sort of sphincteric muscle which was entirely efficient in the new location.

3. The vaginal opening should be carefully preserved by a circular incision made around it.

4. A dissection of the rectum should be made sufficient to permit the bowel opening to be displaced to about the normal position of the anus, and this dissection should be conducted in a manner which will not too seriously interfere with the nutrition of the rectum.

5. The perineum and vagina are to be closed in front by sutures in a manner exactly similar to that followed in an ordinary perineorrhaphy.

6. The bowels should be managed as in an ordinary case of perineorrhaphy.

22 West Seventh Street.

A DEVICE FOR FACILITATING TEST-MEAL REMOVAL AND GASTRIC LAVAGE.*

F. J. DEVER, M.D.

AND

F. A. FAUGHT, MD.

Assistants to the Professor of Clinical Medicine, Medico-Chirurgical College and Hospital.

PHILADELPHIA.

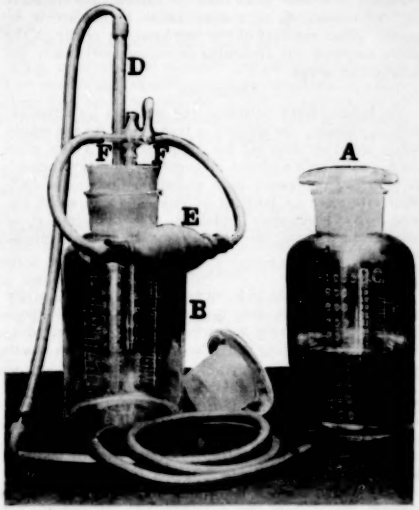
Some years ago Professor Judson Daland adopted, for the purpose of facilitating gastric lavage and test-meal removal, two large open-mouth bottles of more than a liter capacity, a plain gastric tube and a double action Davidson bulb. With this arrangement, aided by an assistant, it was possible to obtain a sample of gastric contents in considerably less than a minute and to immediately follow this procedure with lavage and inflation if desired. This arrangement while marking a distinct advance over other methods in common use, has the decided drawback that its employment required the attendance of an assistant; the complicated nature of the apparatus requiring a second pair of hands to manage bottles and change tube connections during the passage of the tube.

To overcome this difficulty and to render this method more universal in its employment we have devised the reversing valve about to be described. This device is simple in its manipulation, easy to keep clean and in repair, and in practice does away entirely with the necessity for assistance.

Besides the reversing valve (F,F) the following components are required: 1, A plain gastric tube (C) without bulb or funnel; 2, a double-action Davidson hand bulb (E); 3, a large rubber stopper having two perforations; 4, two wide-mouth bottles (A and B) of more than a liter capacity each and graduated in fractions of a liter;[1] 5, a short length of glass tubing (D) and some quarter-inch tubing. The stomach tube should be of relatively large diameter (½ to ⅝ inch) and should be provided with both a terminal and lateral openings in the gastric end. Such a tube is easier of insertion, less annoying to the patient, and greatly increases the chances of obtaining a sufficient sample without difficulty.

TECHNIC.

Fill one graduated bottle (A) to the 500 c.c. mark with warm sterile water. Fit the double-perforated stopper with the reversing valve and with the glass tube. Place the stopper firmly in the empty bottle (B) and attach the gastric tube (C) to the glass tube (D) and the two ends of the double-action bulb (E) to the horizontal tubes of the reversing valve (F,F). Finally, ascertain the direction of the air current



Apparatus for facilitating test-meal removal and gastric lavage. A, bottle of at least 1 liter capacity graduated in c. c., to hold sterile water; B, bottle similar to A, to which aspirating apparatus is attached; C, plain gastric tube without bulb or funnel; D, glass tubing to which is attached the gastric tube and which goes well down into bottle B; E, Davidson hand bulb for producing either negative or positive pressure in bottle B; F, F, reversing valve by which the direction of the air current is changed so as to produce either negative or positive pressure within bottle B and therefore (when in use) within the stomach.

through the valve by making a few pressures on the bulb. Set the valve to make negative pressure within the bottle.

These preliminaries completed, the tube should be passed with the patient preferably in the sitting posture. As soon as the tube enters the cardiac extremity a few quick pressures are made on the bulb, this will develop a slight degree of negative pressure within the bottle

* Demonstrated before the Philadelphia County Medical Society, June 10, 1908. From the Laboratory of the Department of Clinical Medicine, Medico-Chirurgical College, Philadelphia.

1. These special bottles are not necessary for practical results, as any large open-mouth bottle of sufficient capacity, such as a quart milk bottle, may be substituted. In this event a line around the bottle must be made at the measured 500 c. c. mark.

when the gastric contents will immediately flow up through the tube. Sudden stopping of the flow from occlusion of the tube by particles of food or mucus may immediately be removed by momentarily reversing the lever of the valve. This will cause a small portion of the gastric contents to return through the tube, effectually washing out the obstruction. This simple maneuver may be repeated as frequently as necessary to obtain a sufficient specimen.

In the event of failure to obtain sufficient material by this means, the difficulty will usually be overcome by the introduction of a measured amount of water. To accomplish this the stopper with all its connections is removed from the bottle (B) and fitted into bottle (A) containing the 500 c.c. of warm water. The valve is set to make positive pressure within the bottle, then by means of the bulb about 400 c.c. are run into the stomach. The valve is then reversed and by further compression of the bulb the fluid is withdrawn. It is necessary to recover more than the amount introduced if any determinations of a quantitative nature are to be made. After removal of the test-meal, by either of the above methods, the apparatus is immediately ready for inflation or lavage.

INFLATION.

To inflate, after outlining the stomach by auscultatory percussion, the stopper is transferred to the empty bottle and the valve set for compression. A few pressures on the bulb will put sufficient air into the stomach to alter the percussion note without ballooning it sufficiently to alter its position or relation to adjacent viscera. By alternately inflating and deflating it is possible to differentiate absolutely gastric from colonic tympany.

LAVAGE.

To perform lavage or to introduce a quantity of mildly alkaline water it is only necessary to repeat the above procedure substituting water for air and then introducing and withdrawing this fluid until the final wash-water returns clear.

With this apparatus under average conditions it is possible to complete the process of removal in less than a minute from the time of introducing the tube, while the whole process as outlined should not occupy more than three or four minutes. As the operator becomes more familiar with the technic the required time naturally becomes less.

GONORRHEAL ARTHRITIS TREATED WITH ANTIGONOCOCCIC SERUM.

W. C. GAYLER, M.D.
ST. LOUIS.

The following case is of interest because of the prompt and decided relief following the injection of the antigonococcic serum:

History.—Miss N., aged 19, a stenographer, came to me May 30, 1908, with copious vaginal discharge, and frequent and painful micturition. She had pain but no swelling in the muscles of the right shoulder. She had intense pain and enlargement at the articulation of the first and second phalangeal bones of the index finger of the left hand. The mucopus from the cervix and the expressed pus from the urethra each contained large quantities of gonococci.

Treatment.—The urethra was irrigated daily with a 2 per cent. protargol solution, and the endocervix received a daily application of 6 per cent. protargol, after the surface had been cleaned. The urethral discharge stopped almost at once, and the cervix showed some improvement. For five weeks the finger grew steadily worse. Local applications were of absolutely no help. Internal remedies, including opiates, gave not even temporary relief. The finger was twice its normal size, red, and so painful that the slightest touch would produce a cry of pain from the patient, who is a strong-minded, intelligent woman. On July 7, 2 c.c. of antigonococcic serum, as prepared from ram's blood by Drs. Rogers and Torrey, was injected into the right arm. Within forty-eight hours the swelling had gone down somewhat, giving the finger a shriveled appearance. There was less pain, and the joint could be manipulated without much discomfort. Three injections were made, at intervals of three days. Three days after the last injection the finger had almost returned to normal size. There was no pain when the finger was at rest, and only slight pain when the finger was manipulated. There is no doubt about the immense change for the better following the injections. The cervix, which was still involved at the time of the injection, did not seem to undergo any change as a result of this treatment. Gonococci were still present in small quantities three days after the injections, as they were before the first injection was made.

SOAP CONCRETIONS IN CHOLELITHIASIS.

GEORGE RICHTER, M.D.
ST. LOUIS.

Miss M. R., 40 years old, always healthy except occasional catarrhal conditions of the stomach (never had typhoid), fell sick with colicky pains. When an icteric color developed her friends advised her to take salad oil, of which she then swallowed about 750 c.c. from June 4 to June 6.

On June 19 I found her with an intense icteric color, circumscribed painful resistance in the region of the gall bladder, no fever; urine dark brown (bile pigments), free from albumin and glucose, but rich in indican. Calomel produced (June 22) an ample passage containing a large number of rounded white lumps, which, however, were not preserved. Again, on July 5, after an enema of 400 c.c. salad oil, she passed a quantity of large white lumps.

These soap concretions were delivered to me in a clean glass jar after they had been rinsed with water. They were 0.5 to 2 cm. in diameter and of the consistency of hard tallow (at a temperature of 23 C.).

I washed them with distilled water and dissolved about 2.5 grams in alcohol. After adding potassium hydrate I heated and saponified the solution, evaporated it and shook the bulky residue with absolute ether, which then was evaporated. No cholesterin was found.

After about five days I noticed that the white concretions in the jar had been disintegrated, a large layer of oil floating on top. Of this oil 10 c.c. were filtered off, saponified, and the solution evaporated, residue shaken with absolute ether and the ether extract with water. From the evaporated ether extract remained about 1 or 2 drops of a brown, tenacious fluid, too little for closer examination.

The substance on the filter (about 12 grams) was freed from fat with ether, exhausted with hot water and then with alcohol. To the filtrate from this sulphuric acid was added. There resulted 0.025 grams of fatty acids, showing that but very little soluble soaps had been present. On the filter remained about 0.3 grams of what appeared to be fecal matter.

Evidently the concretions passed by this patient had been either a highly concentrated emulsion from the salad oil by action of the intestinal (pancreatic) secretions, or they had been true soap, afterward split up into oil and alkali by the action of some ferment. It would seem more probable that the soap concretions are in reality thickened emulsions. Lack of fresh material prevented further investigation to decide the question.

The patient was operated on successfully by Dr. Francis Reder of St. Louis, July 18. About 200 gallstones, faceted and consisting of cholesterin, varying from the size of a cherry-stone to that of a hazlenut, were found in the gall bladder, while the ducts were free.

Therapeutics

WARTS.

These common and troublesome excrescences belong to that class of epithelial tumors known as papillomata and are generally described as presenting four varieties, each of which is characterized by the variety of epithelium on which it is prone to appear. Verruca vulgaris, appearing on the skin; villous papillomata, on the mucous membrane of the bladder, pelvis of the kidney, and choroid plexuses of the cerebral ventricles; intracystic papillomata, on the inside of cysts of the mammary glands and ovaries; psammomata, on the pia mater of the brain and cord only where they are prone to calcification. The three latter varieties present many interesting anatomic peculiarities, the first variety, verruca vulgaris, the common every-day wart, has also several varieties of form, and as for varieties of treatment, they are legion and range from medieval incantation to the equally efficient proprietary nostrum.

Excepting the "anatomic wart" (verruca necrogenica), which is not a true papilloma but a tuberculous infection and confined to the back of the hand and fingers—small or large, pigmented or not, single or in groups, there is no part of the skin where they may not appear.

Anatomically, they consist of a base of hypertrophied connective tissue surmounted with an hypertrophy of the papillæ and rete Malpighii and covered with a thickened corneum, the whole change being accompanied with an increased blood supply.

Etiologically, they appear to follow a mild local irritation; beyond this their origin is uncertain.

Their occurrence is most frequent in children, they are less common during adolescence, and adults have them least, though not infrequently a predisposition to their formation seems to follow through life.

INTERNAL MEDICATION.

Occasionally they disappear as unaccountably as they appear, but generally some local application to remove them is necessary.

If the warts are numerous or there is a tendency for their reappearance internal medication is advisable at the same time. Arsenic in some form holds first place, perhaps best as:

For a child:

R.	c.c.		
Liquoris potassii arsenitis	60	or	m. x
Aquæ cinnamomi ad	150	ad	f℥v

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

For an adult:

R.	c.c.		
Liquoris potassii arsenitis	6	or	♏iss
Aquæ cinnamomi ad	150	ad	f℥v

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

Epsom salt has also been used with success, as:

For a child:

R.	gm. or c.c.		
Magnesii sulphatis	1	or	gr. xv
Aquæ ad	150	ad	f℥v

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

For an adult:

R.	gm. or c.c.		
Magnesii sulphatis	25	or	℥vi
Aquæ ad	150	ad	f℥v

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

EXTERNAL APPLICATIONS.

R.	gm. or c.c.		
Hydrargyri chloridi corrosivi	1	or	gr. xv
Collodii flexilis	25	ad	f℥vi

M. et Sig.: Paint on the wart once a day.

Blakke's Ointment:

R.	gm. or c.c.		
Potassii bichromatis	20	or	gr. iii
Petrolati	30		℥i

M. et Sig.: Rub into the wart at night.

Mantellin's Paint:

R.	gm. or c.c.		
Chlorali hydrati	1		gr. xv
Acidi salicylici	4		℥i
Acidi acetici	1	or	m. xv
Ætheris	5		f℥i
Collodii	15		f℥ss

M. et Sig.: Paint on wart once a day.

From the *Bulletin Général de Thérapeutique*, Feb. 23, 1908:

R.	gm. or c.c.		
Extracti cannabis indicæ	1		gr. xv
Acidi salicylici	2	or	℥ss
Collodii	40		f℥x

M. et Sig.: Paint on the wart once a day.

When none of these methods are successful there remains electrolysis, cauterization and curettage. Cauterization may be done with the actual cautery or one of the escharotics. Of the latter, nitric acid is generally the choice, a drop from a glass rod being placed on the wart, being careful not to touch the surrounding skin. This method, however, is not the one of choice, as it frequently results in an unnecessary amount of inflammation and frequently secondary infection.

Electrolysis is perhaps the most elegant method, but if the wart is so situated as to make cosmetic effect desirable it requires considerable experience and skill in the use of the electric needle.

Finally, curettage offers a speedy, certain and, if properly done, painless method of removal. The wart and surrounding skin are thoroughly scrubbed as for any other surgical procedure, and the wart and healthy skin about it for about one-fourth inch are then frozen with ethyl chlorid. A few strokes with a sharp curette will then remove the wart entire, and the resulting tiny wound may be dressed with a simple antiseptic, or perhaps just as well with a dry aseptic dressing.

ABORTIVE TREATMENT OF BOILS.

The *New York State Journal of Medicine*, December, 1907, quotes the following as effective in absolutely aborting a boil: The inflamed part should be thoroughly scrubbed with soap and water, then washed off with 50 per cent. alcohol, and then an alcohol compress should be applied to the part and allowed to remain until the alcohol has evaporated. The region is then again washed with soap and water and the suds allowed to dry on, no other dressing being applied. If there is no pus, a single treatment is said to abort the furuncle.

Four-Flap Method of Vessel Anastomosis.—The *Semana Medica*, July 2, 1908, publishes an illustrated description by A. Pirovano of his "four-flap method" of end-to-end anastomosis of vessels. He has applied it in suturing fifty vessels and states that it surpasses in strength and ease of execution all other methods of which he knows. The technic is readily seen from the illustrations, but he warns that the slits must be exactly in the longitudinal axis and exactly symmetrical. He calls it the *Procedimiento a cuatro colgajos*.

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[*For other information see second page following reading matter*]

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THE DEFENSE OF MEDICAL RESEARCH.

The address of Dr. Cannon on the opposition to medical research[1] is noteworthy in that it takes a line rather out of the ordinary in articles on this subject. We are accustomed to find such articles directed toward an investigation in detail as to the truth or falsehood of the particular assertions made by active members of the antivivisectionist propaganda. Dr. Cannon, however, attacks his subject from a basic standpoint and sets before himself as his objective an inquiry into the reasons for the unfair and irritating conceptions which prevail among the vast mass of those who are so strongly opposed to animal experimentation. This inquiry he divides as follows: 1, the conflicting statements as to the existence and extent of painful experiments; 2, an inquiry which in all matters of controversy necessarily arises, on the appearance of conflicting testimony, as to the experience and characteristics of the contestants; 3, certain assumptions regarding animals; and 4, the question of motives.

Dr. Cannon shows the significance that the term "vivisection" carries in the mind of the antivivisectionist, viz., that of "the cutting or dissection of sentient living animals, bound or restrained, and subjected to the full torture of extensive operation without anesthesia"; and he sets against it the statistical returns of experiments made some time ago in Massachusetts, and the official figures—required by Act of Parliament—in Great Britain for 1906. To these he adds the individual testimony of experimenters of large experience, to the effect that in their many years of work they have never had occasion to perform, and never had witnessed any experiment of the class described. As against this last evidence he quotes the testimony of Mrs. Cook and Mr. Stephen Coleridge before the royal commission, to the effect that they have no confidence in the assertions made by experimenters as to the use of anesthesia. This naturally leads to the second point, the qualifications of the respective witnesses on the score of, first, knowledge, and secondly, character. Dr. Cannon points out that the very training of scientific investigators is of such a kind as to make their work useless unless they are skilled in the arts of accurate observation and careful and definite recording, and that they bring these qualifications to bear directly on the subject under discussion, viz., what actually goes on in the physiologic laboratory. Of their competence to state what actually occurs, there can thus be no doubt; of their necessity for doing so, it is easy to judge when it is remembered that to do otherwise would vitiate the very purpose of their work—for a record of an experiment that did not contain all available data would be useless as a basis for future work; consequently, the two qualities most essential for the scientific investigator to cultivate are accuracy of observation and precision in recording. The antivivisectionists, on the other hand, are not, as a rule, persons whose training is such as to foster these qualities; and even if they were, it is rarely the case that they have ever been so situated that they could have anything either to observe or to record. Their chief characteristics seem to be a keen sensibility and a vivid imagination. Dr. Cannon quotes one instance in demonstration of this fact which would be ludicrously funny were it not so pathetic in its exposition of the calamity of ignorance. A Mr. Peabody, commenting on an experiment (under ether) in which the *peripheral* end of a severed nerve was stimulated, dilates on the amount of agony involved therein, which, he says, must be obvious even to the casual reader. As to the question of character, a remark of Dr. Cannon is very apposite: "It is characteristic of our ways of thinking," he says, "that when a general statement is made, most of us interpret it in those concrete terms with which we are best acquainted." It is in accordance with this, that all animal experimenters possess so low a character in the eyes of the antivivisectionists that such terms as "fiends," "human monsters," "diabolical vivisectors," and "devilish science" are in vogue as generalizations from the fanciful pictures of novelists and poets, and are applied individually; and that as above stated, prominent antivivisectionists proclaim that they put no credence in the assertions of experimenters as to what was or was not done. Let us quote Mr. Coleridge from the "Appendix to the Third Report of the Commissioners," p. 182:

"Question 10952: We may have inspection, but still we may ask a person of character, when he saw the experiment, what his opinion of it was. You will not accept that? [Ans.]: Certainly not, because I think that all these experimenters have the greatest contempt for the act of parliament. They would deny a breach of this act just as I would deny a breach of the motor car act. I drive a motor car, and when I go beyond the speed limit, and a policeman asks me, I say, 'No, I am not going beyond the speed limit.' Nothing would keep me from going beyond the speed limit except the presence of a policeman in the car; and nothing will keep an experimenter within the four corners of the act except an inspector in the laboratory."

1. Page 635, this issue.

Should we, in our turn, be justified, by parity of reasoning, in assuming every owner of a motor car, not to say every antivivisectionist also, to be a wanton law-breaker and a deliberate liar?

It is unnecessary to pursue this subject in further detail. Dr. Cannon's address will tell its own tale far better than any summary can. It only remains for us to endorse his solution of the problem, namely, an active campaign of enlightenment of the public as to the actual facts in the case, which are so grotesquely distorted by the vivid imaginations of many undoubtedly estimable people, who are deficient in the knowledge that is necessary to enable them to form a correct judgment on the question. It is to combat this state of things, to spread a greater enlightenment among the public as to the truth of the premises on which they are called ultimately to form a judgment, that the Research Defense Society of Great Britain and the Council on Defense of Medical Research of the American Medical Association have been established.

INSIDIOUS LEAD POISONING.

For a long time pathologists called attention to the fact that the gouty kidney and the kidney of chronic lead poisoning resembled one another so closely as to be almost indistinguishable. Gradually it came to be realized that other features in the pathologic pictures of gout and lead poisoning bore the same marked resemblance. Out of this came, eventually, the definite conclusion that lead poisoning plays an important rôle in the etiology of gout—a disease which has only too persistently been relegated to that class in which heredity plays the most important part and the causation of which is shrouded in obscurity.

About five years ago as a result of the analysis of the statistics of Johns Hopkins Hospital for twelve years the rather startling conclusion was reached that gout in Baltimore is not much more infrequent than in England, though England is usually considered to be the great home of that disease. The proportionate frequency of the disease in St. Bartholomew's and Johns Hopkins, due allowance being made for the larger number of admissions to St. Bartholomew's, was as four to three. According to this gout occurs only one-fourth more frequently in England than in the United States. At the same time it was pointed out that at least two-thirds of the cases of gout seen in this country were the results of the habits of the individual and not inherited from the family strain. At least one-half of the acquired cases of gout were traced to lead poisoning. This gives an added pathologic significance to an intoxication that is usually thought of as only a casual disturber of health in certain occupations, and very rarely as a serious underlying condition on which chronic ailments are likely to be developed.

Since these Johns Hopkins' statistics were published lead poisoning has attracted much more attention in this country and its ultimate results have been looked for rather carefully. In the light of recent observations it seems not unlikely that certain persons who have an intense susceptibility for lead may need scarcely more than passing contact with the metal to have the production of definite effects. Dr. Walsh[1] has recently called attention to the extreme susceptibility which some people have to lead intoxication. In one case the lead stoppers of bottles containing carbonated drinks, in another the painting of a flat by a housekeeper, and in a third the drinking of water from an artesian well that flowed through new lead pipes, were enough to produce definite and characteristic symptoms of lead poisoning.

In all these cases there was an immediate reaction against the metal. People who suffer in this way are usually prone to consider that they are unfortunate in having such an immediate reaction produced. It is evident, however, that if this did not happen they would go on absorbing portions of the metal which in the course of time would give rise to the symptoms of chronic lead poisoning, before the real nature of the intoxication was recognized. One wonders if there may not be a number of people who, while not possessing immediate susceptibility to lead, or to other related poisons, yet suffer in the long run from the more insidious forms of chronic poisoning. Scientific knowledge proceeds from the generic to the specific, and such a determination of definite causative factors to replace indefinite hypotheses, in the production of gout, would do much to clear up the obscurities of this phase of medicine.

THE CURE OF LEPROSY.

For a number of years Louisiana has supported an asylum for lepers, one of the foci of the disease in this country being in that region. For six years this institution has been carried on as a hospital and systematic treatment attempted under the general direction of Dr. Isadore Dyer, the well-known dermatologist of New Orleans. The biennial report recently sent out contains some figures rather subversive to our usually held ideas of the resistant and practically incurable nature of leprosy. One patient is reported as discharged cured, five more as practically well but kept for observation, fifteen in whom the disease has been arrested and only twelve as unimproved or in the terminal stages of the disease.

No specific treatment is claimed, unless the use of chaulmoogra oil may be called such, but daily hot baths (104 F.) have been found of great service and strychnin and arsenic appear to have been largely employed. In patients intolerant of the chaulmoogra oil, sweet oil has been used as a substitute but has been found less effective. Much attention is given to diet; the leper, the medical report says, needs all he can eat and should

1. Internat. Clin., Series 18, vol. ii.

have the best there is. When we consider that the total number under care during the period was only sixty-one, it will be seen that nearly 10 per cent. of practical cures is claimed, improvement in about 25 per cent., and arrest of this hitherto considered inevitably fatal disease in as many more. In the report issued in 1906, three cures are reported.

While there have been occasional announcements of marked improvement and apparent cure of leprosy, such figures as those given here are especially noteworthy. We hear of no such percentage of cures from other leprosariums in which a patient once committed is practically sentenced for life and escape is unknown. Some cases have been reported cured by Tonkin in Jamaica and possibly some others elsewhere in asylums, but these Louisiana statistics are the most encouraging that have yet appeared. As far as we are aware there has been no report of the spread of the disease from the colony, none of the employés or sisters in charge has suffered, or seems to have any fear of it. Such facts as these should put an end to the insane dread shown of isolated imported cases in some sections of the country.

It would be of interest to compare the treatment, dietary and hygienic surroundings of this so apparently successful Louisiana institution with those of other like establishments, but detailed data of the latter are not available. Much of the difference in results can probably be attributed to the hospital methods carried out in the Louisiana institution; the general acceptance of the view as to the hopelessness of the disease has undoubtedly been a factor acting prejudicially to its cure. The failure of introduced Scandinavian leprosy to spread in Minnesota and its asserted gradual disappearance there with improved conditions of living among the immigrants, have a like significance. While leprosy has been regarded in the past as incurable, this view seems no longer tenable.

THE UNITED STATES OPIUM COMMISSION.

The letter of Mr. Hamilton Wright on another page[1] of this issue is commended to the attention of our readers. His request for the cooperation of the medical profession in his inquiry we trust will call out the information he desires. There must be a vast amount of facts known only to medical men in regard to the spread of the opium habit in its various forms, and that can be brought out in no other way than through physicians. The figures he gives, however, are amply sifinificant, and can only mean that there is a marked increase in the use of opium for other than medical purposes. The increase in the importation of smoking opium (chandu) is especially significant; a doubling of the amount of the preparation especially manufactured for a particular form of vice, while our Chinese population has actually decreased, must mean that the evil is spreading among other races in this country to a dangerous extent.

1. Correspondence Department, page 688.

We can not take this, moreover, as indicating the full extent of the evil; the figures give no information as regards the amount of crude opium that is manufactured here into smoking opium or the amount that is smuggled into the country. The royal commission adjusting the Chinese claims for damages by the race riots at Vancouver, B. C., had to pass on the claims of two opium manufacturers, each of whom demanded damages for loss of business at the rate of $100 a day. If the manufacture of smoking opium can be thus extensively carried on in one provincial town, what are the possibilities elsewhere? The condition has certainly caused alarm in Canada where it seems to have been unsuspected and almost suggests the opium panic in South Africa two or three years ago. As regards the increase of opium smoking among the whites in this country we need only cite the modest estimate of Kane, who, in 1882, considered 6,000 as perhaps too small a figure, and those received by Mr. Wright[2] of 5,000 white opium smokers in New York City alone and over 100,000 in the United States at the present time. Conditions are probably as bad in some other countries, especially in the great seaports, and it has been charged that the vice of opium smoking has even extended to the officers in at least one foreign navy, where it has been credited as a cause of some recent disasters.

We have spoken especially of the opium smoking vice because it is one that will be the chief subject to be considered by the international commission, and it is one that no one wishes to see become a living question in the Caucasian races. What it has done in China has been shown by Mr. Merwin in his recent articles in *Success*, and wherever the Chinese go, he says, the curse of opium smoking goes with them. It is a phase of the "yellow peril" that we may have to meet nearer our homes than we have anticipated, and one perhaps far more formidable than many others that have been more dreaded. The morphin and other ordinary opium habits have been, so to speak, always with us, and we know after a fashion, how to deal with them. They are bad enough, but they do not appear to become as universal and pervading a national vice as opium smoking has become in regions where it has prevailed. While this particular use of opium is the international question above all others, it has, as the above figures show, an aspect that European nations may have to consider in their own defense, even at home as well as in their colonies and dependencies. It is to be hoped that the international commission will be able to agree on methods that will be adopted by civilized governments generally, to control effectively the opium traffic. Proper international control will greatly aid the several states in maintaining

2. It is perhaps worth noting here that the figures given by Mr. Wright of the importation of crude opium, include only that containing 9 per cent. or over of morphin. Chinese smoking opium is, in China at least, made mostly, as we believe, of a product much weaker in morphin. Are importations of the weaker Chinese opium excluded in the figures given? If so, how much must we allow from this source?

regulations for the suppression of the opium vice within their own borders. It would be a serious deprivation if the world should lose the medicinal and pain-stilling uses of opium, but its absolute suppression would be a small price to pay if by it only could the evil as it exists in China be checked.

THE NATIONAL FARM COMMISSION AND RURAL SANITATION.

Irrespective of politics, there will probably be general approval of the action of President Roosevelt in directing attention to the conditions existing on farms, and of his appointment of a commission to report on the possibilities of improving the social, industrial and sanitary aspects of farm life. As medical men we are naturally most interested in the sanitary conditions of farm life and gratified that the need of improvement along this line has been recognized. The commission should experience no difficulty in showing conclusively the need of work on this subject. Every physician with even a limited knowledge of rural life knows the deplorable sanitary conditions which exist in large sections of the country. It is necessary only to refer to the aphorism "typhoid is a rural disease" and to the wide-spread occurrence of malaria and hookworm disease in the South. In fact, the question of sanitation, important in all sections, is of paramount importance in some sections. The need is so obvious and urgent and some measure of relief, at least, so easy that this would seem to be the most tangible problem the commission could consider.

While there is no doubt that the commission will secure expert advice from sanitarians and medical men, the matter is of such importance that we feel that it is unfortunate that the President did not see fit to invite a sanitarian to become a member of the commission. From a humanitarian standpoint there is no brighter chapter in the record of Roosevelt's administration than the sanitary work in Panama. We believe that there is an opportunity for adding an equally bright chapter by beginning work for the farmers and their families similar to that now done for the farmers' live stock.

The President calls attention to the fact that all efforts to aid the farmers have hitherto been directed to improving their material welfare while the man himself and his family have been neglected. Nowhere is this more marked than in the attitude of the general Government in matters relating to sanitation. It is a trite saying that whereas the Government, through the Department of Agriculture, aids the farmer generously in caring for the health of his hogs, sheep, etc., it does nothing for his own health. The Government issues notices to the farmer of the injury done to his crops by the cotton boll-weevil and potato bugs and how to combat it, but the injury the mosquito does in spreading malaria to the people who pick the cotton and hoe the potatoes is not impressed on him. The fact that horse-flies may carry anthrax to his cattle is dealt with at considerable length, but the diseases which the house-fly spreads to the milk and to the farmer's family attract practically no attention. How to build a hog pen or a sanitary barn is the subject of a number of Government publications but how to build a sanitary privy which will prevent the spread of typhoid, hookworm and many other diseases is regarded as of strictly local interest.

It is hoped that the commission will recommend that some branch of the Government be directed to prepare for the farmers popular sanitary bulletins similar to those issued so freely for the benefit of his live stock. In no way can the "life of the farmer be made richer" than by pointing out how the loss of life and of efficiency from preventable diseases can be diminished. "Improvement of the Social and Industrial Conditions" is a rather vague and difficult problem; "improvement of the sanitary conditions" has a definite, well-defined practical significance.

SOUTHERN MEDICAL JOURNALS AND CLEAN ADVERTISING.

The medical journals of the South are setting a praiseworthy example in the matter of clean advertising. A little while ago we referred to the *Southern Medical Journal*, a new periodical recently started at Nashville, Tenn., and commented on the high stand taken by it regarding proprietary advertisements. Now comes the *Old Dominion Journal of Medicine and Surgery*, under entirely new management and editorial control, with similar high ideals. It says:

"In the matter of advertisements, this journal endorses to the fullest extent the movement that is now on foot to exclude entirely from the columns of medical publications the announcements of questionable or unethical proprietary preparations. In accordance with this plan, and to insure thoroughly the clean character of this new publication, it is resolved that *no advertisements of any proprietary or 'patent medicine' that has not received the endorsement of the Council on Pharmacy and Chemistry of the American Medical Association, shall be accepted.* In taking this step *The Old Dominion Journal of Medicine and Surgery* desires to place itself on record as being thoroughly in accord with the general endeavor for ethical advertising."

But if the medical journals above referred to and others of equal quality are to be conducted on the high plane outlined and are yet to live, they must receive generous and adequate support from the profession. It takes cash to pay the printer and to meet the other expenses of publishing a medical journal, just as much as any other journal; and without it, success is impossible. There are two sources from which cash is derived—the subscribers and the advertisers. As regards the former it can scarcely be expected that a journal can be supported entirely by the payments of its readers, even supposing all readers paid their subscriptions promptly. An exception might be made in the case of such journals as, being highly specialized and appealing

only to a limited class, are practically indispensable to the members of that class, and are thereby enabled to maintain a high subscription rate. On the other hand, the advertisers have always shown themselves more than willing to pay the bills; and, in the case of very many journals—we say this deliberately—the advertising pages are practically the only source of income. To state it differently: a large number of medical journals are to all intents and purposes supplied gratis by the advertisers. Is it any wonder that the advertisers' desires are granted and their interests guarded more zealously than those of the subscribers, namely, the readers? We hope that physicians of the South, individually, will support the two journals above named, so long as they live up to their promises. These journals ought to be able to look to a paid subscription list for at least the major part of their support. There can be no doubt that the South has problems in medicine peculiarly its own. Enough excellent work is being done, and still more ought to be done, by the physicians of the South, to afford a valid reason for the maintenance of one or two high-class journals to present that work. So long, therefore, as they fill their reading pages with material of a quality as high as that which their initial numbers provide, and continue to live up to the standard they have set regarding advertising, so long will they have a right to look to their readers for such an adequate income from subscriptions as shall permit no excuse for the prostituting of the advertising pages that the literary columns may exist.

THE MECHANICAL FACTOR IN THE PATHOGENESIS OF ARTERIAL DISEASE.

Since attention was directed by Amy B. Miles[1] to the prevalence of spontaneous aortic disease in rabbits there has been some uncertainty as to how far such substances as adrenalin, digitalin, etc., are responsible for the arterial changes which have been attributed to them when administered to rabbits. These changes are found almost exclusively in the aorta, and to a less extent in the iliacs, and consist primarily in a degeneration of the muscular tissue of the media with later involvement of the elastic tissue and secondary thickening of the intima. Certain bacterial toxins have been shown by Klotz[2] to favor the development of a process beginning in the intima of the aorta and pulmonary artery. More recently Klotz[3] has endeavored to eliminate the factor of toxins entirely. Rabbits were suspended by the hind legs for three minutes a day during periods of from ninety-two to one hundred and thirty days. Manometric studies had demonstrated that by this means the pressure in the aorta could be easily raised. The five rabbits which were subjected to this procedure all exhibited more or less marked changes in the aorta and in the carotids, subclavian and brachial arteries, the control animals being normal. Curiously enough, the changes in the descending aorta were exclusively of the adrenalin type of degeneration, showing the primary changes in the media, while in the peripheral vessels the intima was evidently the first part affected. The fact that the extremities by which they were suspended were entirely free from disease seems to indicate that the mechanical factor alone was responsible for the development of these two forms of arterial disease.

1. THE JOURNAL, Oct. 5, 1907.
2. Brit. Med. Jour., 1906, p. 1767.
3. Centribl. für Allge. Path. u. Path. Anat., July, 1908.

THE NIGHT CAMP FOR TUBERCULOUS PATIENTS.

The report of Dr. W. C. White, medical director of the Tuberculosis League of Pittsburg, contains a suggestion that is worthy of attention by those interested in the fight against tuberculosis. "Many patients," he says, "feel that it is absolutely impossible for them to give up work, mainly because they are the sole support of a family. These could be cared for in a night camp, where they could sleep out of doors, secure a good supper and breakfast, careful instruction and supervision, and yet continue their labors." The suggestions given by physicians and nurses as to the care of consumptive patients are often unheeded or imperfectly carried out because of the ignorance or carelessness of the other members of the family. The patient who must work is often so tired that he is unable to do those things for himself which the physician advises. He can be under the direct supervision of the physician and nurse but a few hours a week at most. By means of the tuberculosis night camp he could be brought under the control of the antituberculosis agencies for more than half his time, and the regulation of his life could be accomplished much more efficiently than by the occasional visits of the nurse or of the physician. In the neighborhood of every large city there are tracts of land where such camps could be established at small cost, and the workers domiciled there could go to their work in the morning refreshed by the pure air and strengthened by the good food provided by the camp. Not only would such patients be able to fight the disease longer, even if they should succumb eventually, but the danger of contagion to their families would be removed.

Medical News

CALIFORNIA.

San Francisco.

Inspection of Schools.—A physician and four trained nurses have been employed by the board of health, San Francisco, to inspect the pupils in the public schools.

Licenses Revoked.—It is reported that the Board of Medical Examiners has revoked the certificates of Dr. B. Brooks Lee and J. C. Anthony for unprofessional conduct.

Personal.—Dr. A. C. Hart and Mrs. Hart, Sacramento, have gone to Europe for a four months' trip.——Dr. Charles H. Bulson, Sacramento, has been appointed assistant surgeon of the California National Guard, with rank of first lieutenant.——Dr. and Mrs. Wislocki, San José, have returned from a trip through the northwestern states and British Columbia.

COLORADO.

New Hospital.—The Western Federation of Miners is building a hospital to cost $24,000 at Silverton. It is for the use of members of the organization in the southwestern part of the state.

Personal.—Dr. William H. Sharpley has been reappointed health commissioner of Denver for the next four years.——We are informed that the license of Dr. F. L. Crandell has been revoked because of illegal advertising.——Dr. Charles E. Elliott, Victor, was seriously cut and bruised by the overturning of his buggy, August 8.

GEORGIA.

Medical Society Meets.—At the annual meeting of the Fifth Congressional District Medical Society, held at Decatur, July 20, the address of welcome was delivered by the mayor and was responded to by Dr. H. M. Smith, Edgewood.

New Medical College Organized.—A new medical college to be known as the Hospital Medical College has been organized in Atlanta. Dr. J. H. Powell has been elected president; Dr. Giles Hathcock, vice-president; and Dr. Charles N. Field, dean. The faculty will consist of 17 instructors. The college will open on October 5.

ILLINOIS.

Cocain Seller Fined.—C. F. Herlecka, a druggist, arrested charged with illegally selling cocain, is reported to have been fined $200 and costs.

Personal.—Dr. F. W. Searles, New Lenox, one of the oldest and best known practitioners of Will County, was seriously injured in a runaway accident, August 7.

Chicago.

Mortality Statistics.—During the week ended August 15 there were 620 deaths, 363 of males and 257 of females. Causes of death were as follows: Apoplexy, 9; nephritis, 40; bronchitis, 4; consumption, 46; cancer, 25; convulsions, 2; diphtheria, 4; heart diseases, 63; influenza, 1; intestinal diseases, acute, 168; measles, 2; nervous diseases, 11; pneumonia, 32; scarlet fever, 4; suicide, 7; typhoid, 7; violence (other than suicide), 42; whooping cough, 7; other causes, 146.

Contagious Diseases.—During the week ended August 14, 181 cases of contagious diseases were reported, distributed as follows: Diphtheria, 41; scarlet fever 35; measles, 19; whooping cough, 25; tuberculosis, 37. With the exception of measles and tuberculosis there were fewer cases than in the preceding week. The Isolation Hospital is now empty. It has been thoroughly disinfected and is being painted and otherwise prepared for the reception of scarlet fever and diphtheria patients.

MARYLAND.

Tuberculosis Exhibition.—The Maryland Association for the Prevention and Relief of Tuberculosis will have an exhibit at the Montgomery County Agricultural Fair to be held at Rockville, August 25-28.

Personal.—Dr. Joseph C. Clark has been re-elected superintendent of the Springfield State Hospital for the Insane, Sykesville.——Dr. Benjamin Whitely, Catonsville, was operated on for carbuncle at the Union Protestant Infirmary, Baltimore, August 5.

Baltimore.

Bequest to Hospitals.—The will of Mrs. Sarah Reinhard provides for the following bequests: Hebrew Hospital, $200; Jewish Hospital, Philadelphia, $200.

Night Tenement Inspectors.—The appointment of night inspectors in tenements to prevent the overcrowding of sleeping rooms is urged by representatives of the Federated Charities. Italian laborers are said to be the chief offenders, and one instance is reported where nearly a score occupied a room intended for two persons. The city authorities approve the suggestion.

Hospital for Infectious Diseases.—The Muncipal Hospital for Infectious Diseases is practically completed and is being furnished. The ward building cost $19,000, and will accommodate 35 patients. Smallpox patients will be taken as heretofore to the Quarantine Hospital. A laundry building will furnish heat for the hospital and sleeping apartments. This, with the stable, cost $7,000. It is intended ultimately to have four such hospitals for infectious diseases. The health commissioner has not yet appointed the resident physician and assistants.

Personal.—Dr. James G. Linthicum, who was appointed to succeed Dr. Henry L. Smith as police surgeon, was painfully injured in a collision between his carriage and a street car August 7.——Dr. Henry M. Hurd, superintendent of Johns Hopkins Hospital, has been appointed a member of the state lunacy commission, vice Dr. Charles F. Bevan, retired.——Dr. Frederick W. Taylor sailed for Europe August 3.——Dr. William S. Halsted returned from Europe August 7.——Dr. James H. Chesnut was operated on for appendicitis July 10.——Dr. Arthur P. Herring has been elected secretary of the state lunacy commission.——Dr. James W. Johnson of Newberry, S. C., has been made instructor in medicine in the clinical laboratory of Johns Hopkins University.

Fever Epidemic Denied.—Dr. James Bosley, health commissioner, denies the statement that there is any typhoid epidemic in Baltimore. He quotes statistics of the health department showing that for the six weeks, July 1 to August 9, inclusive, there were 225 cases. For the same period of last year there were 105 cases. He asserts that 225 cases out of 60,000 population can not be regarded even as a "mild epidemic." During this period there were 39 cases of typhoid in 11 hospitals and in three there was not a single case. For the six weeks there were 32 deaths from this disease. These statements are based on the presumption that all the cases of the disease which occurred in a specified time were reported. During the Methodist general conference in April there was not a case of typhoid or a serious illness among the delegates.

MASSACHUSETTS.

Personal.—Dr. Elizabeth A. Riley, Boston, and Drs. George Rhoads, Walter R. Weiser and Harvey W. Van Allen have gone to Europe for the summer.——Dr. John J. Martin has been elected school physician of Beverly.

Bequest.—By the will of the late Patrick Donnelly, Arlington, $250 is bequeathed to St. Elizabeth's Hospital, Boston.——The late Daniel E. Milleriek, in his will, directs his trustees to pay one-eighth of his estate to the Carney Hospital, Boston.

Boards of Health Meeting.—At the quarterly meeting of the Massachusetts Association of Boards of Health, held at Gallups Island, Boston Harbor, July 23, papers were presented by Prof. Theobald Smith on "The House Fly as a Carrier of Disease," and by Mr. B. R. Rickards on "The Disinfection of Books."

MINNESOTA.

Personal.—Dr. Thomas Lowe, Pipestone, has been appointed head physician of the Modern Woodmen of America for Minnesota.

Tuberculosis Hospital.—There are now fifty-three patients in the Minnesota Sanatorium for Consumptives, Walker, and only seven vacancies remain.

Hospital Annex Opened.—An annex to the Fairview Hospital, Minneapolis, has just been completed. The building is a two-story brick, fireproof structure, built at a cost of $70,000, and donated to the association by George H. Christian.

Communicable Diseases.—Two cases of diphtheria are reported from Eveleth, and one case has made its appearance at Biwabik.——The State Board of Health reports that during the six weeks ended July 30, 419 cases of smallpox were under treatment in the state, with no deaths. St. Paul had 87 of these cases and Duluth 67 cases.

MISSOURI.

Personal.—Dr. Frank P. Norbury, Jacksonville, Ill., has opened an office in North St. Louis.——Dr. Ernest G. Mark, Kansas City, is visiting Louisville.

Barnes Medical College Granted Mandamus.—Judge Muench of the Circuit Court of Missouri has granted a writ of mandamus to compel the State Board of Health of Missouri to examine the students who graduated from Barnes Medical College last June. The case will probably be carried to the Supreme Court.

The State Sanatorium.—At a recent meeting of the Missouri State Sanatorium for Incipient Tuberculosis it developed that the expense of maintaining the institution would exceed the appropriation by $5,000 or more, and for this reason the majority of the directors favored closing the institution on August 15. One of the members of the board strongly objecting to this action, guaranteed to make good any deficit, and his proposition was accepted by the board. It is probable with rigid economy the work will proceed to the end of the fiscal year with practically no deficit.

Societies.—At the annual meeting of the state medical association, an Association of Secretaries and Councilors of County Medical Societies was organized. A constitution and by-laws were adopted. The following officers were elected: President, Dr. Foster W. Burke, Laclede; vice-presidents, Drs. Marshall A. Smith, Gallatin; Edward N. Chaslain, Rich Hill; and secretary-treasurer, Dr. Charles Wood Fassett, St. Joseph.——At the annual meeting of the North Missouri Medical Society, held recently in Willow Springs, the following officers were elected: President Dr. Ezra C. Grim, Kirksville; vice-presidents, Drs. William L. Brosius, Gallatin, and Godfrey O. Cuppaidge, Moberly; corresponding secretary, Dr. E. C. Callison, Kirksville; recording secretary, Dr. O. McEwen, Salisbury; and treasurer, Dr. Robert Haley, Brookfield.

NEW YORK.

Society Elections.—At the annual meeting of the Buffalo Academy of Medicine Dr. Edwin A. Bowerman was elected president; Dr. Harry R. Trick, secretary, and Dr. William I. Thornton, treasurer.

Fund for New Hospital for Tarrytown.—Mr. John D. Rockefeller has contributed $25,000 to the building fund of the new Tarrytown Hospital, on condition that the citizens of Tarrytown raise $50,000 more.

A New Tuberculosis Hospital.—The Rensselaer county board of supervisors has appropriated $25,000 for the erection of a hospital for the treatment of advanced cases of tuberculosis. Sixty-five patients will be accommodated.

Personal.—Dr. Carl G. Leo-Wolf, Niagara Falls, has returned from a two months' trip abroad.——The state civil service commission has appointed Dr. Fred E. Lettice, Schenectady, physician at Sing Sing prison at a salary of $2,000 a year.

Donation to Charity.—It has recently been announced that the donor of the Caroline Rest Home for Mothers at Hartsdale was Mr. George H. F. Schrader. Mr. Schrader has just given a country club for social workers to the Association for Improving the Condition of the Poor, which is also located at Hartsdale. His gift amounts to $500,000; the club cost $40,000; the Caroline Rest Home for Mothers, $105,000, and the remainder of the gift is to be used as an endowment fund for the home. This home will accommodate seventy patients and will be used for mothers convalescing after childbirth.

New York City.

Decrease in the Death Rate.—The health department reports that for the week ended August 10 the death rate of the city was 16.74, as compared with 22.22 of the same week of last year. The total number of deaths in the city was 1,419; last year there were 1,825 for the same week.

Contagious Diseases.—There were reported to the sanitary bureau for the week ending August 8, 411 cases of tuberculosis, with 137 deaths; 170 cases of diphtheria, with 14 deaths; 130 cases of measles, with 7 deaths; 89 cases of scarlet fever, with 2 deaths; 107 cases of typhoid, with 20 deaths; 23 cases of whooping cough, with 12 deaths; 10 cases of cerebrospinal meningitis, with 6 deaths; and 10 cases of varicella, a total of 950 cases and 198 deaths.

Street-Car Accidents.—The public service commission reports that during the month of July there were 239 serious accidents, 63 fewer than in June. There were 169 car collisions, 1,002 persons and vehicles were struck by cars, 633 were injured boarding cars, 1,305 were injured alighting from cars, and 49 were hurt by contact with electricity. Thirty-five persons were killed, 13 persons received fractured skulls, 4 had their limbs amputated and 54 had broken limbs. Included in these numbers were 2,313 passengers, 645 employés and 620 others.

Red Cross Day Camp. A day camp for tuberculous patients will be opened on the roof of the Vanderbilt Clinic in October by the American National Red Cross in cooperation with the clinic. About 40 patients will be cared for the year round at first during the day only and afterward at night also. The clinic will put the roof in condition and furnish medical supervision, while the New York County subdivision of the state board of the Red Cross will defray the expenses of maintenance and nursing. The patients to be received will be those suffering from the disease in an early or moderately advanced stage. This effort marks the entrance of the New York County Red Cross Society into the tuberculosis crusade.

Recommendations.—A supplementary report of the State Charities Aid Association of the municipal hospital system contains many recommendations, such as the establishment of emergency relief stations for the better treatment of rush cases, with an ambulance service attached; local hospitals for the relief of acute cases, to be provided especially with vacant wards for the handling of cases following catastrophes and great accidents; general hospitals for the treatment of non-acute chronic diseases, etc. At present the daily number of sick in Greater New York is 135,396, and for every death in the year 1.83 persons are constantly sick. Of every 100 in the population 2.21 are sick of chronic or acute diseases, and of this number 8.4 per cent. are treated in hospitals.

OREGON.

State Board Changes.—At the annual election of the State Board of Medical Examiners Dr. Andrew C. Panton, Portland, succeeded Dr. William S. Mott, Salem, as president; Dr. Robert C. Coffey, Portland, succeeded Dr. Byron E. Miller, Portland, as secretary; and Dr. Edward B. McDaniel, Baker City, succeeded Dr. Robert C. Coffey, Portland, as treasurer. ——Dr. Edward B. McDaniel, Baker City, has been reappointed a member of the State Board of Medical Examiners.

State Association Meeting.—The thirty-fourth annual meeting of the Oregon State Medical Association was held in Portland, July 1, 2 and 3, under the presidency of Dr. Robert C. Coffey, Portland, who in his presidential address, entitled "The Conservative Organization of Medicine and Surgery in the Pacific Northwest," advocated the completion of a thorough organization of physicians in the states of Oregon, Washington and Idaho; the consolidation of the two medical schools in Oregon into one; and the combination of the two medical journals of the Pacific northwest. The following officers were elected: President, Dr. William H. Byrd, Salem; vice-presidents, Drs. William Kuykendall, Eugene; Calvin S. White, Portland; and R. C. Yenney, Portland; secretary, Dr. William House, Portland (re-elected); treasurer, Dr. Edna D. Timms, Portland; and councilors, Drs. Samuel T. Linklater, Hillsboro; and Walter T. Williamson, Portland (re-elected).

PENNSYLVANIA.

Officers Elected.—At the regular meeting of the Fifth Senatorial District of the State Medical Society, held at Chambersburg, the following officers were elected: President, Dr. J. J. Coffman, Scotland; vice-president, Dr. A. D. Dalbey, McConnellsburg; secretary and treasurer, Dr. J. Holtzappel, York.

No Right to Vaccinate.—The State Health Department has been notified that a person claiming to represent the State Health Department, has been traveling through Chester County insisting on vaccinating farmers and their families. He charged a moderate fee and has collected a large sum of money. This man is not known by the State Health Department.

Personal.—Dr. R. G. Covode, Johnstown, was operated on recently as the result of injuries sustained a few weeks ago in an automobile accident.——Dr. J. K. Evans, Malvern, was thrown from his carriage in a runaway accident and seriously injured.——Dr. Warren Royer, Trappe, said to be one of the oldest practicing physicians in this state, recently celebrated his eighty-eighth birthday anniversary.

State Railroad Accidents.—The report of the Pennsylvania state railroad commission shows that 5,160 accidents occurred on the railroads of the state during the six months ended June 30. Of this number 525 resulted in death. The average number of persons injured per month was 772, and the month of February heads the list with 866 injured. The average number killed per month was 88, and the month of March heads this list with 102.

New Society Organized.—The physicians of Turtle Creek Valley have organized a medical society to be known as "The Valley Medical Society." The following towns are represented: North Braddock, East Pittsburg, Turtle Creek, Wilmerding, Wall, East McKeesport, Pitcairn and Trafford City. The following officers were elected: President, Dr. Todd, Trafford City; secretary, Dr. Walter R. Shoemaker, Wilmerding, and treasurer, Dr. Frederick L. Muthe, Wilmerding.

Society Meetings.—The physicians of the slate region organized the Slate Belt Medical Society at Bangor, August 4. Dr. Albert A. Seem, Bangor, was elected president; Dr. Sydenham P. Uhler, Pen Argyl, secretary; and Dr. Benjamin F. Dilliard, East Bangor, treasurer.——At the annual meeting of the Allegheny Valley Medical Society, held in Cheswick, August 1, the following officers were elected: President, Dr. William A. Arnold, Tarentum; vice-presidents, Drs. William P. McCulloch, Cheswick, and Thomas E. McConnell, Parnassus; secretary, Dr. William T. Hall, Tarentum; treasurer, Dr. Albert S. Kaufman, New Kensington.——The Columbia County Medical Society held a picnic meeting in Columbia Park, July 11, at which the families and friends of members were present. The Rev. Dr. Hemingway made an address on "The Relation of the Ministry and the Medical Profession," and Mr. Bonner of Pittsburg talked on "The Legal Profession as Contrasted with the Ministry and Physicians." On motion, Dr. Luther B. Kline was appointed to prepare a history of the society and to present it at the October meeting.

Philadelphia.

Personal.—Dr. J. LeRoy Wright, Lauraville, Md., has been appointed resident physician to the Chester County Hospital, West Chester, Pa.

Money to Charity.—The will of the late Miss Annie Van Reed, Reading, Pa., bequeaths $6,500 to the Medico-Chirurgical

Hospital.——**The will of the late Mary E. Abbott** contains a contingent bequest of $5,000 to the West Philadelphia Hospital for Women. This sum is to be used to establish and maintain a free bed, to be known as the Mary E. Abbott free bed.

Smallpox on Steamship.—The steamship *Haverford*, from Liverpool to Philadelphia, was detained at the United States quarantine station at Reedy Island on account of the presence of two cases of smallpox. The patients, with several suspects, were transferred to the Isolation Hospital, and after thorough fumigation the ship was allowed to proceed. She carried 140 passengers.

Dr. Cairns Reinstated.—Dr. A. A. Cairns, who served for several years as chief medical inspector of the bureau of health and who resigned this position in June last on account of ill-health, was reinstated and resumed his position August 15. Dr. C. A. Groff, who has been acting chief medical inspector, has been made supervising medical inspector. This is a new position in the bureau of health.

Hospital Ban Withdrawn.—The ban placed on several city hospitals by the director of public safety, forbidding the police to take trolley-accident cases to these institutions, was lifted August 12. This order had previously been modified so that of the ten hospitals originally named only the Presbyterian, German and Mount Sinai remained under the ban. Every public hospital of standing may hereafter receive trolley-accident cases.

Night Quarantine Service.—Dr. Walter Wyman, surgeon general of the United States Public Health and Marine-Hospital Service, announces that an all-night inspection service will be established at the national quarantine station, Reedy Island. It has been the custom to detain vessels entering this port at night until sunrise the following morning for quarantine inspection. Local maritime interests have been striving for the establishment of this service for several years.

Physician Implicated in Cocain Crusade.—Dr. J. Philips Bader was arrested and held in $1,000 bail August 11, charged with the indiscriminate and criminal distribution of cocain. Dr. Bader, who conducted a small drug store, is looked on by the authorities as the head of a "dope ring" with victims in all sections of the city. Bader's drug store was the headquarters for the sale of this drug and the doctor had several men under his patronage who sold the drug throughout the city in 25-cent packages.

To Safeguard Health.—The Department of Public Health and Charities has been greatly exercised over the introduction of transmissible diseases in the various hospitals throughout the city. The department feels that these diseases are largely introduced by outsiders visiting the patients, and with a view of lessening this evil the director of the health bureau will furnish the hospitals daily with a list of the names and addresses of those reported to the bureau of health as having transmissible diseases.

Health Report.—The total number of deaths reported for the week ended August 15 was 448, including 242 males and 206 females. This is a decrease of 34 from the number reported in the preceding week, and a decrease of 54 from the number reported in the corresponding week of last year. The principal causes of death were: Typhoid, 6; measles, 2; pertussis, 4; diphtheria, 5; consumption, 44; cancer, 23; apoplexy, 12; appendicitis, 7; Bright's disease, 29; premature birth, 20; heart disease, 37; acute respiratory diseases, 17; enteritis, 8; congenital debility, 17; suicide, 3; accidents, 16, and marasmus, 16. There were 117 cases of contagious disease reported, with 13 deaths, as compared with 84 cases and 13 deaths reported in the previous week.

Money for Charity.—By the will of the late Mrs. Annie L. Lowry the Philadelphia Home for Incurables will receive $10,000; Pennsylvania Society to Protect Children from Cruelty, $10,000; Home of the Merciful Savior for Crippled Children, $10,000; Home for Infants, $5,000; Starr Center Association, $5,000; Presbyterian Hospital, for Mary L. Davidson memorial bed, $5,000; German Hospital, for Nathan Davidson memorial bed, $5,000; Philadelphia Home for Incurables, for Sarah K. Davidson memorial bed, $5,000; West Philadelphia Hospital for Women, for a free bed, $5,000; Friends' Asylum for the Insane, $3,000; Pennsylvania Hospital for the Insane, to be used for poor patients, $3,000, and the Industrial Home for Blind Women, $25,000.

Weekly Health Talk.—In the weekly public health talk of Dr. Neff, director of public health and charities, it is stated that there has been a decrease of 15 per cent. in the mortality from tuberculosis for the first three weeks of July as compared with the same period of 1907, despite the fact that the registration of the disease for the first three weeks of July, as compared with the same period of 1907, shows an increase of 56 per cent. The health department acknowledges the interest the physicians of the city are taking in the crusade against tuberculosis. Dr. Neff has issued the following "dont's" for consumptives:

Don't spit on the sidewalk; it spreads disease and is against the law.
Don't spit on the floor of your rooms or hallways.
Don't spit on the floor of your shop.
Don't cough without holding a handkerchief or your hand over your mouth.
Don't kiss a person with a cough or cold.
Don't live in rooms where there is no fresh air.
Don't work in rooms where there is no fresh air.
Don't sleep in rooms where there is no fresh air.
Don't eat without washing the hands.
Don't neglect a cough or cold.
Don't waste your money on nostrums for consumption. Go to a doctor or dispensary.
Don't drink whisky, beer or other intoxicating drink. If you have consumption it will make it harder for you to get well.

VERMONT.

School for Health Officers.—The tenth annual school for health officers was opened at Burlington, June 29, with addresses by Governor Proctor, Dr. Charles S. Caverly, Rutland, President of the State Board of Health, and Mayor Bigelow, of Burlington.

Sanatorium Report.—Dr. Henry Chadwick, superintendent and medical director of the Vermont Sanatorium, West Pittsford, reports that since the opening of the sanatorium in December last, 53 patients have been admitted, of whom 26 have been discharged, leaving 27 under treatment. Of those discharged, 8 are apparently cured, 5 of whom were incipient, and 3 moderately advanced cases; in 9 cases the disease was arrested; 3 of these were incipient and 5 moderately advanced cases. Four patients were improved; 2 of these were far advanced and one moderately advanced; one was a case of chronic bronchitis and not tuberculosis. Five patients were not improved; of these 3 were far advanced, one was moderately advanced and one left the sanatorium after a stay of two days.

Medical Society Meetings.—At the annual meeting of Rutland County Medical and Surgical Society, held in Rutland, July 14, Dr. William W. Townsend, Rutland, was elected president; Dr. Herbert S. Martyn, Cuttingsville, vice-president; Dr. William W. Stickney, Rutland, secretary; and Dr. Henry R. Ryan, Rutland, treasurer.——At the annual meeting of Caledonia County Medical Society, held in Montpelier, the following officers were elected: President, Dr. John M. Allen, St. Johnsbury; vice-president, Dr. Albertus A. Cheney, Lyndonville; secretary, Dr. Walter J. Aldrich, St. Johnsbury; and treasurer, Dr. John M. Gibson, McIndoe Falls.——At the annual meeting of the Addison County Medical Society, held in Middlebury, Dr. George F. Edmunds, Bristol, was elected president; Dr. Frank C. Phelps, Vergennes, vice-president; Dr. Peter L. Dorey, Middlebury, secretary; Dr. Stanton S. Eddy, Middlebury, treasurer; Dr. Merritt H. Eddy, Middlebury, librarian; and Dr. Harold L. Williamson, Bristol, delegate to the state society.

WASHINGTON.

Hospital Burned.—The Hospital of the Roslyn-CleElum Miners' Association, CleElum, was destroyed by fire July 9. All patients were removed without casualty.

Drinking Cups Abolished.—By order of the health department of Seattle drinking cups have been abolished in the public schools and bubbling fountains substituted.

State Board Election.—At the recent election of the State Board of Medical Examiners, Dr. Elmer D. Olmsted, Spokane, was elected president; Dr. James A. Durrent, Snohomish, vice-president, and Dr. Kenneth B. Turner, Seattle, secretary.

Fined for Selling Misbranded Drugs.—A druggist of Seattle was recently fined $25 and costs for violation of the state law by selling misbranded drugs. The drug sold was a "patent medicine," the label on which did not tell the quantity or proportion of alcohol in it, nor the country of manufacture.

Personal.—Dr. James A. M. Henderson, Seattle, has started for Nova Scotia and England.——Dr. C. P. Jento, physician at the federal prison, McNeil Island, has resigned and will practice in Tacoma.——Dr. Jabez A. Mahan, Ellensburg, has been reappointed a member of the board of trustees of the State Normal School.——Dr. Fonda Nadeau, Seattle, has gone to Europe and will remain until December.

Health of Seattle.—During June there were 303 births and 155 deaths reported in the city. Chief among death causes were diseases of the circulatory system, 28; accidents (including suicides), 21; genitourinary diseases, 17; tuberculosis, 16; digestive diseases, 15, and nervous diseases, 12. During the month 39 cases of diphtheria, 21 of smallpox, 38 of scarlet fever, 20 of measles, 5 of typhoid fever, and 2 of cerebrospinal meningitis were reported. The plague laboratory reports that 5,304 rats were killed, of which 4,856 were examined, and but two were found to be infected with plague.

New Society Organized.—The Okanogan County Medical Society was organized at Riverside, July 17, and the following officers were elected: President, Dr. H. M. Fryer, Riverside; vice-president, Dr. James B. Couche, Twisp; secretary-treasurer, Dr. Charles R. McKinley, Brewster, and censors, Drs. W. W. Schwabland, Loomis, Clayton P. House, Oroville, and A. M. Polk, Conconully.

GENERAL.

Esperanto and Medicine.—Major P. F. Straub, Medical Corps, U. S. Army, has been appointed to represent that department at the Esperanto Congress to be held at Dresden, Germany, this month. This would seem to indicate that this new language is regarded as of sufficient importance to be recognized, indirectly at least, by one branch of the government.

Female Nurses in the Navy.—Formal orders are being prepared at the Navy Department, organizing a corps of female nurses for the Navy. A woman physician will be chief of the corps, at a salary of $1,800 a year, and 100 nurses will be engaged with salaries of from $45 to $75 a month. Candidates will report in Washington September 1 for a special course at the Naval Hospital Medical School.

Marine-Hospital Examination.—A medical board will be convened by the Bureau of Public Health and Marine-Hospital Service on September 24, at 10 a. m., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine-Hospital Service. Candidates must be between 22 and 30 years of age, graduates of a reputable medical college, and must furnish testimonials as to their professional and moral character. Information relative to the examination can be obtained by addressing the Surgeon General, Public Health and Marine-Hospital Service, Washington, D. C.

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

DISTINGUISHED FOREIGNERS TO ATTEND.

This congress, as previously announced, will be held in Washington, D. C., Sept. 21-Oct. 12, 1908. One week of the congress, September 28 to October 3, is to be devoted to section work:

PROGRAM OF ORTHOPEDIC SECTION.

Following is the program for Section III, Surgery and Orthopedics, under the presidency of Dr. Charles H. Mayo, Rochester, Minn.: (The programs of other sections appear in the preliminary announcement.)

Construction of Hospitals for Tuberculosis Patients. Mr. Meyer J. Sturm, Chicago.

Tuberculosis of the Larynx: The Type Which is Capable of Recovery, and the Principles of Treatment. Dr. W. E. Casselberry, Chicago.

A Brief Note on the Value of the Ophthalmic-Tuberculin Test in the Question of Surgical Treatment of Orbital Disease. Dr. Charles A. Oliver, Philadelphia.

Tuberculosis of the Choroid. Dr. Sydney Stephenson, London.

Tuberculosis Affecting the Cornea. Dr. Oscar Dodd, Chicago.

Tuberculosis of the Ear. Dr. Clarence J. Blake, Boston.

Tuberculosis of the Cervical Lymph Nodes: Report of 275 Cases Treated by Radical Extirpation. Dr. Chas. H. Dowd, New York City.

Tuberculous Glands in Children. Mr. H. J. Stiles, Edinburgh, Scotland.

Retroperitoneal Tuberculous Glands and Their Relation to the Spinal Symptoms. Dr. C. F. Painter, Boston.

(a) Traitement des Adénites Tuberculeuses. (b) Traitement de la Tuberculose du Testicule. Dr. Cazin-Chef, Paris.

Surgical Tuberculosis of the Lungs. Prof. Sauerbruch, Marburg, Germany.

Tuberculosis of the Lungs and Pleura. Dr. S. Robinson, Boston.

Tuberculosis of the Breast. Dr. Wm. Rodman, Philadelphia.

Tuberculous Arthritis of the Hip Joint. Dr. Stephen H. Weeks, Portland, Me.

The Treatment of Tuberculous Hip Disease by Weight Bearing and Fixation by the Lorenz Short Hip Spica. Dr. H. Augustus Wilson, Philadelphia.

The Question of Non-Interference in the Passive Abscesses of Tuberculous Joint Disease. Dr. Morton F. Shaffer, New York City.

Vaccine Therapy in Joint Tuberculosis. Dr. E. H. Ochsner, Chicago.

Indications for Operative Treatment of Bony Tuberculosis. Dr. A. Codivilla, Paris, France.

Tuberculous Arthritis of the Knee Joint. Dr. Mauclaire, Paris.

Tuberculose Medio-Tarsienne et Pied Plat. Dr. A. Jeanne, Rouen, France.

De la Méthode de Mosetig dans le Traitement de Tuberculose Osseuse. Dr. Nové-Josserand, Lyon, France.

Tuberculosis of the Vas, Epididymitis and Testicle. Dr. John B. Walker, New York.

Tuberculosis of the Bladder. Dr. Wilhelm Karo, Berlin, Germany.

Tuberculosis of the Bladder. Dr. Bransford Lewis, St. Louis.

Tuberculosis of the Kidney. Dr. Arthur Dean Bevan, Chicago.

Tuberculosis of the Kidney. A Preliminary Study. Dr. Ramon Guiteras, New York City.

Tuberculosis of Intestines and Appendix. Prof. Henri Hartmann, Paris.

Acute Forms of Abdominal Tuberculosis. Dr. D. N. Eisendrath, Chicago.

Tuberculous Adnexa. Prof. Samuel Pozzi, Paris.

Tubercular Peritonitis. Dr. J. B. Murphy, Chicago.

Experimental Testicular Tuberculosis. Dr. Chas. Esmonet.

Surgical Bearings of Tuberculin. Dr. R. W. Philip, Edinburgh, Scotland.

Surgical Tuberculosis. Dr. E. H. Bradford, Boston.

The Prevention, Diagnosis and Surgical Treatment of Tuberculous Sinuses and Abscess Cavities. Dr. Emil G. Beck, Chicago.

The Value of Fresh Air in Conjunction with Artificial Hyperemia in the Conservative Treatment of Surgical Tuberculosis. Dr. Willy Meyer, New York City.

The Importance of, and How the State of Minnesota Cares for Its Indigent Children Suffering from Tuberculosis of the Bones and Joints. Dr. Arthur J. Gillette, St. Paul.

Outdoor Treatment of Surgical Tuberculosis. Dr. De Forest Willard, Philadelphia.

La Cure d'Altitude et la Cure Solaire de la Tuberculose Chirurgicale. Dr. Rollier, Lucerne, Switzerland.

Tuberculosis of the Muscles, Fascia and Tendons. Dr. James F. Mitchell, Washington, D. C.

Tuberculosis of the Gall Bladder, Pancreas, Stomach and Liver. Dr. L. W. Hotchkiss, New York City.

Rational Spinal Support. Dr. Henry W. Frauenthal, New York City.

Clinical Contribution on the Pharmacotherapy in the Surgical Tuberculosis by Hypodermic Treatment. Dr. Gualano.

International Conference in Philadelphia.

Preceding the section work, and in connection with the congress, will be held the seventh annual meeting of the International Antituberculosis Association, at Philadelphia, September 23-26. This association is a delegate body composed of representatives of the various countries, appointed by their respective governments or antituberculosis associations. The program of the conference is as follows:

September 23, 8 p. m.: "Social Life and Tuberculosis," by Prof. Dr. Pannwitz, Berlin.

September 24, 8 p. m.: "The Evolution of the Treatment of Pulmonary Tuberculosis," by Dr. C. Theodore Williams, London.

September 25: "Provision for Advanced Cases of Tuberculosis," by Dr. Biggs, New York City, and Dr. von Leube, Würzburg; "Prophylactic Measures in Tuberculosis," by Lawrence F. Flick, Philadelphia, and Dr. Nathan Raw, Liverpool; "Hygienic Requirements for Sanatoria," by Dr. Lawrason Brown, Saranac, N. Y., and Dr. Pannwitz, Berlin; "Antituberculosis Education," by Dr. Livingston Farrand, New York City; Dr. G. A. Heron, London; Prof. A. Calmette, Lille, and Dr. Kirchner, Berlin; "Tuberculosis and Traffic," by Dr. Sherman G. Bonney, Denver.

September 26: "Tuberculosis and Legal Rights," by Dr. Samuel G. Dixon, Harrisburg, Pa.; "The Red Cross Society in the Crusade Against Tuberculosis," by Dr. Pannwitz, Berlin, and Miss Mabel T. Boardman, Washington; "Notification of Tuberculosis," by Dr. Walsh, Philadelphia; lecture on *"Les nouveaux procédés de diagnostic précoce de la tuberculose,"* by Prof. A. Calmette, Lille.

Each day there will be receptions, banquets and other social functions.

FOREIGN.

Another Sign of Progress.—The *Gesundheitslehrer* states that the *Frankfurter Zeitung*, an important German daily, has now dropped from its columns advertisements of Bauer's alleged cure for diabetes. He is one of the largest advertisers in Germany.

Prison Term for Leipsic Irregular.—One of the Ausmeier brothers, a trio of well-known German charlatans, was recently sentenced to four months in prison in a personal injury suit. He treated a sick woman with purgatives after having merely examined her urine; as it was a case of typhoid, serious injury resulted. His appeal to a higher court was thrown out.

The Moebius Endowment.—The endowed prize founded as a memorial to the late neurologist, P. J. Moebius, will be offered next year for the first time. The committee in charge includes the presidents of the German neurologic and psychiatric societies. A prize will be awarded every two years for the best work presented in the interval on one of these specialties alternately. A Moebius portrait medallion will accompany the prize. In 1909 the prize will be given for research on the connection between Moebius' "infantile disintegration

of the nuclei" and the anatomic bases of bulbar paralysis. Address Prof. L. Edinger, Frankfort on the Main, Germany.

Cattle Protected Against Nostrums.—A letter from Holland in the *Wiener klinische Rundschau*, August 2, states that during an epizootic in Holland last year the State Serum Institute at Rotterdam—at the request of the farmers—investigated the remedies advertised to cure the cattle disease, and published its verdicts in regard to their value or worthlessness. By this means the nostrums and quacks in this line of business were unable to do harm. The writer remarks that the state protects cattle, but lets human beings suffer in consequence of ignorance in regard to fake remedies, etc., without interference. He adds that Professor Kouwer, at the last meeting of the Netherlands Medical Association, called attention to the fact that when women are dying from abortifacient maneuvers they invariably state that they were tempted to the deed by some advertisement in the daily papers, and he denounced the lay press as the "panderer to this bloody business."

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Aug. 8, 1908.

Annual Meeting of the British Medical Association.

The annual meeting of the British Medical Association was held at Sheffield on July 27-31, and was attended by nearly 1,000 members. The University of Sheffield placed its spacious buildings at the disposal of the association and afforded ample room for housing the seventeen sections. Mr. Simeon Snell, the president, delivered an address in which he dealt with a number of subjects—the history of the association, the part played by Sheffield in this and in the promotion of medical education and science generally, and his own researches on miners' nystagmus. The address in medicine was delivered by Dr. James Kingston Fowler, dean of the faculty of medicine of the University of London and senior physician of the Middlesex Hospital. He took for his subject "Modern Medicine." Discussing the student and practitioner of the future, he said that students in ever-increasing numbers will resort to the universities for the preliminary and intermediate subjects in their education, and that medical schools will simply supply the clinical teaching. He deplored the abuse of hospitals by persons able to pay for medical advice. During 1907 no fewer than 6,000,000 out-patient attendances were recorded by the London medical charities. For thirty years this abuse had been a burning subject. He suggested that in the future the rôle of the consulting physician should be more clearly defined and that some should cease to undertake regular medical attendance. The honorary degree of D.Sc. of the University of Sheffield was conferred on the president and distinguished members of the association and visitors. Among the recipients of the honor was Dr. Murphy of Chicago. The business of the representative meeting of the delegates of the various branches was important. Two special reports attracted much attention. The first dealt with the subjects of the ethics of consultation. A number of rules were set out, the main object of which was to protect the interests of the attending practitioner. From the point of view of the consultant he must be regarded as primarily and continuously responsible for the patient's medical care, the consultant having relatively a temporary responsibility. The relation of the consultant to the attending practitioner was one of trust which considerations for his own honor and of the interests of the profession and public should preclude him from perverting to his own advantage to the detriment of the attending practitioner. An elaborate report was presented by Sir Victor Horsley on behalf of the medico-political committee. The gratuitous treatment of rate-maintained patients and the relations of doctors and insurance and friendly societies were considered. A recommendation to further the introduction of the metric system was adopted.

Decline of the Plague in India.

In 1907 the mortality from plague in India reached the appalling total of 1,204,194. But a rapid decline has now occurred and the number of deaths in the twelve months ending June 30, 1908, is only 252,781. The measures adopted for combating the disease include rat destruction, evacuation of infected quarters, improvement of insanitary areas and inoculation. Grants amounting to $1,000,000 have been made to local governments in this year's budget for expenditure on sanitary improvements for the prevention of plague. During the time the epidemic prevailed the mortality amounted to 2.1 per 1,000 of the population.

Two Notable Octogenarians.

The president and vice-presidents of the Royal College of Surgeons have sent congratulations to two of their ex-presidents, Mr. Thomas Bryant and Mr. Jonathan Hutchinson, on the occasion of their eightieth birthdays. Mr. Hutchinson is still a remarkable example of great intellectual vigor. His weekly clinics at the Polyclinic are as attractive as ever and both by mouth and by pen he teaches and engages in controversy with unabated force. He never tires of fighting for his fish hypothesis of leprosy which, like another Galileo, he has maintained, undeterred in the least by almost universal opposition. This is not to be wondered at, if it is remembered how many of his doctrines he has seen, in a long life of almost unprecedented activity, first received with skepticism and even ridicule, and then gradually accepted. A remarkable fact, showing the accuracy of his observations and conclusions, is that the progress of time has not modified or impaired any of his doctrines. At the Polyclinic he may often be heard quoting from works published by him forty years ago observations which to-day are unmodified by time and as important as ever.

Physician Shot at Bedside of His Patient.

Torquay was the scene of a murderous attack on a physician by a member of the patient's family. For some months a local practitioner, Dr. Hamilton Cuming, had been attending a little girl, the only child of a wealthy Russian gentleman, who is a widower. Two operations had been performed on the child, and it is supposed that anxiety for the child to whom he was devotedly attached, unhinged the father's mind. At 3 a. m. the physician was at the child's bedside, when the father entered the room suddenly, produced a revolver and fired, the bullet entering at one side of his victim's neck and coming out at the other. The Russian allowed himself to be disarmed while the police were being sent for. It is suggested that he fired at the doctor under the delusion that he was administering poison to the child. The doctor is progressing favorably.

Fighting Consumption in Scotland.

The Scottish local government report just issued shows that a very energetic campaign against consumption is being waged by the authorities of that country. Compulsory notification has now been adopted by nine local authorities and voluntary notification by fifty-two. Many authorities hold that if the struggle is to be successful notification must be compulsory and general. Leith now isolates phthisis in spare wards in its infectious diseases hospitals. In Lanarkshire—where the coal miners are specially liable to the disease—the spare wards of the various infectious diseases hospitals are similarly utilized. So successful has the procedure proved that other local authorities are following suit. Another notable success has been achieved by Dundee—the first town in Scotland to adopt a municipal dispensary to combat phthisis. The patients are weighed and visited in their own homes by doctors and nurses. The nurse impresses on the patients the danger of infecting other members of the household and instructs them in the simple measures for preventing this.

National Tuberculosis Conference and Exhibition.

A national tuberculosis conference and exhibition will be held in Caxton Hall, London, in November. In accordance with its title the conference is not merely a medical one, but a national one, and its object is to arouse all classes to the importance of securing better methods of prevention and treatment of tuberculosis. As reported in previous letters, the tuberculosis exhibition which is visiting the principal towns of Ireland has been a great success, and it is considered desirable to follow its example and form a similar exhibition in England. Authorities from different parts of the empire, as well as foreign leaders in the anti-tuberculosis movement, will take part in the conference. Arrangements will be made for foreign and country visitors to inspect the chief sanatoriums and hospitals for consumption in and near London.

Alleged Tuberculous Infection by Brushes.

An action for damages against employers has been brought by a workman under peculiar circumstances. He was engaged in the manufacture of "camel hair brushes" from the remnants of Russian squirrel skins and pointed the brushes by passing them through his lips so as to get them into the ferrule. He began working for the defendants in 1901 and in 1903 began to feel ill. In October, 1905, he was found to be suffering from pulmonary tuberculosis. In his statement of

claim he said that the danger of infectious disease arising from the hair as manufactured into "camel hair" brushes was known to the defendants and that the hair should have been disinfected before use. The defendants denied that it was necessary to point the brushes by passing them between the lips and also denied that the hair was dangerous. The evidence for the plaintiff showed that in 1905 the defendants issued a circular stating that the hair used in the brushes was sterilized before being made into brushes so as to render it innocuous. In cross-examination the plaintiff admitted that his sister died in 1888 from acute tuberculosis. Dr. Robert Maguire of St. Mary's Hospital gave evidence that there was danger in using these pieces of hair, whether disinfected or not, and that consumption might probably be conveyed in the hair, and was prevalent in the fur trade in Germany. In cross-examination he admitted that the ironing process in the defendants' factory would kill germs of tuberculosis in the hair. If in seven years no person in the factory except the plaintiff had suffered from tuberculosis that would induce him to believe that there was no great danger from the hair. Without hearing the defendants' case the jury intimated that they had heard enough, and judgment was given for the defendants.

Graduated Work in the Treatment of Consumption.

An interesting demonstration has been given at the sanatorium of the Brompton Hospital for Consumption[1] on the occasion of the visit of Admiral Sir Bowden Smith, General Walker, Dr. A. F. Downes of the Local Government Board and others interested in hospital work. Among the visitors were several hundred old patients who had been discharged from the sanatorium and were earning their living. They were distinguished by a red rosette which they wore, but they looked so healthy that this was the only way in which they could be distinguished from the other visitors. In the best of spirits they spoke of the sanatorium with affection; they contrasted markedly with the patients who were undergoing treatment. They said that they had never felt in better health and were working the usual number of hours at their trades. The peculiar feature of the sanatorium is that the patients are put to such outdoor work as they are capable of performing. This treatment, which marks an epoch in the treatment of tuberculosis in this country, was introduced by the superintendent, Dr. M. S. Paterson. He begins by ordering walking exercise, which is gradually increased to ten miles daily. Gardening with light tools and other suitable outdoor occupations follow. Nothing but good has resulted from this treatment by "graduated work." An explanation of these results is furnished by Dr. A. C. Inman, superintendent of the laboratories of the Brompton Hospital, who has found that the exercise causes an autoinoculation of tuberculin similar to Wright's vaccine treatment, and that a rise in the opsonic index for the tubercle bacillus is produced. At the inspection the patients unfitted for active exercise were to be seen making mats and mops; in the next class the patients walk from one to six miles daily; after that various-sized baskets of earth are carried; this is followed by the use of a small shovel and by hoeing; later a larger shovel is used, and then grass is mowed; finally trenching is done. When a patient is fit to be discharged he works at his trade for six hours daily for three weeks in order that he may be fit to resume it on discharge. A similar course is followed by women, but the implements are smaller. The women keep their own part of the grounds in order, cultivate a small kitchen garden and take charge of the poultry. What the sanatorium is chiefly proud of is a concrete reservoir which Dr. Paterson is careful that all visitors should see. This measures 180 feet in length, 58 feet in width and 13½ feet in depth, and when complete will hold a half million gallons. This has been built entirely by patients and it is expected that it will shortly be opened by the King.

VIENNA LETTER.

(From Our Regular Correspondent.)

VIENNA, July 28, 1908.

Congress on Thalassotherapy.

A congress on thalassotherapy, or treatment of disease by sea air, sea bathing, etc., will be held next September at Abbazia, near Fiume, on the southern coast of Austria, sometimes called the "Nice of the Adriatic." This kind of treatment has been much in favor in Europe of late and the results have been very encouraging. The two kinds of maritime baths —in a tepid, mild sea with a high percentage of salt, and, on the other hand, in a rough, bracing, vigorous sea of the north—have been found to be particularly valuable in certain neurasthenic conditions. In Austria, especially at Grado on the Adriatic, there is a happy combination of warm sea baths with a high percentage of sodium chlorid and iodid, so that rachitic and scrofulous children are sent out in colonies to this place, to return much benefited in health. At the congress there will be a number of eminent thalassotherapists from England, France and Germany, who will read papers.

The New Medical Regulations.

The board of health has finally completed the new edition of Medical Regulations (*Aerzte-Ordnung*) for the empire. This is intended to abolish many old grievances of the profession, to give practitioners a modern code of ethics and to impose certain duties on them. In this work the board of health has been guided by suggestions received from various Austrian medical councils. It should be remembered that the present *Aerzte-Ordnung* has attained the venerable age of one hundred and forty years, and that it is eighty years since any attempts were made to modernize it. The two main features of the new regulations, which come into force within one year, are the following: 1. The power of striking a doctor's name off the medical register is transferred from the public courts of justice to the legal representatives of the practitioner, namely, the medical council of his district. Cases of breach of professional ethics or any infringements of medical law, aside from transgressions of general public law, are to be considered by a "board of honor," consisting of physicians residing elsewhere than in the accused doctor's district of practice. This board may suspend the physician from practice by striking his name from the register for a year. If the penalty is to be made permanent in such cases, it will be imposed by the public judge. 2. Except for personal disability from disease or conflicting engagement, a physician must not refuse to render medical aid. Repeated, wilful, misleading abuse of the physician's services on the part of the patient is also an excuse for the physician's refusal to attend. Every practitioner must have his name placed on the medical register. The presence of his name on this register entitles and also obliges him to practice medicine. A diploma from one of the seven Austrian universities granting the degree of M.D. is necessary as a proof of the successful completion of a satisfactory medical curriculum. Diplomas granted by foreign universities are not valid here, but will enable the holders to apply for certain facilities of examination, which must be passed by the foreign physician intending to practice here. This, of course, does not apply to physicians studying in Vienna. Simultaneous practice at two different places no matter what the distance between them, is forbidden unless necessitated by public or private appointment. Notifications of infectious disease, hitherto not paid for by the state, will in future be compensated at a rate not yet determined, probably one crown or 20 cents per case.

Two Instructive "Circulating Leaflets."

The *Gesellschaft der Aerzte* (Association of physicians) in Vienna has issued, for distribution in districts where the population is of a class that is negligent about seeking medical advice, two leaflets dealing with the female genitourinary system. One describes the early external manifestations of cancer of the uterus, emphasizes the necessity for distinguishing between ordinary menstrual flow and irregular bloody discharge, and earnestly advises women to resort to a competent medical man at once, if after the age of 35, irregularities of color, smell, or time are noted in the menstrual flow. This leaflet is the result of a great movement, which originated in Germany, for fighting cancer of the uterus by instruction of the people, the midwives and the general practitioners. The other leaflet deals with the subject of genitourinary infection before, during and after pregnancy. The nature of puerperal fever, the various sanitary precautions to be observed during the period of pregnancy, and necessity of medical assistance in any complication are explained. It should be remembered that about 40 per cent. of all labors here are not attended by a physician but by a midwife. The leaflet also explains the destructive effects of gonorrheal affections, their danger for the eyes of the newborn infant as well as for the pelvic organs of the mother, and instructs mothers to seek medical help as soon as any symptoms, acute or chronic, manifest themselves. These symptoms are described in plain language. It is to be hoped that the effect of these leaflets will be beneficial.

1. See, also London Letter, THE JOURNAL, July 27, 1907, p. 338, and Lancet, Jan. 25, 1908, abstracted in THE JOURNAL, Feb. 22, 1908, p. 647.

Pharmacology

THE BROADER AIMS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

TORALD SOLLMANN, M.D.
Member of the Council, Professor of Pharmacology and Materia Medica at the Medical Department of Western Reserve University.
CLEVELAND, OHIO.

(*Concluded from page 614.*)

XXII. THE FINAL DISPOSITION OF THE PROPRIETARY PROBLEM.

Proprietary remedies are with us to stay, for the present at least. The "proprietary problem" does not mean their suppression, but their regulation. We must insist that we should be told the truth, the whole truth, and nothing but the truth regarding them. This is the sum of the whole matter. We must be told the sincere, honest truth—not merely the technical truth disguised by quibbles, equivocations, implications and reservations. If we but attain this full truth, all the subsidiary problems can be trusted to adjust themselves.

To insure this full and truthful knowledge, three things are necessary:

1. The profession must want it—seriously want it.
2. It must provide and use measures to enforce it.
3. The manufacturers must be willing to grant it.

The Council exists to determine whether the truth is being told. Its rules are merely convenient check-lists for this purpose. Experience has shown that they are feasible and reasonable. The Council is the officially appointed investigating committee of the profession, charged with the duty of applying the measuring rod as exemplified in these rules. It has the best facilities for ascertaining the facts, and for hearing all sides of every case. The manufacturer can lay before it the full details of all the evidence which he possesses, as he would not lay them before the individual practitioner. He has every opportunity to demonstrate that he is telling the truth, in this broad sense. If he succeeds in his demonstration, the admission of his product is at once published. If he can not make good his claims, his product is not entitled to confidence. The attempt to evade the official investigation, the attempt to confuse the profession by meaningless verbiage or by biased half-truths—these are merely further evidences of insincerity.

THE DUTY OF THE MEDICAL PROFESSION.

The Council can investigate, inform, advise—and here its direct powers cease. All further power for good is indirect, and is based on the degree of professional opinion, and especially professional action, by which the Council is supported. The Council can not directly force a manufacturer to act sincerely and honorably. It can reason with him; it can reward by admission; it can threaten with rejection or exposure; but the efficiency of the persuasion, the reward or the threat does not depend on the Council. It depends altogether on the individual American practitioner. The manufacturer who exploits an unworthy article is an enemy of the profession, always, and can be dealt with only as such. The manufacturer who has a worthy article should be a friend of the profession; his success depends on a cordial cooperation. This he knows, and he is perfectly willing to conduct his business as the profession wants it conducted—else he would be forced out of business.

Actions speak louder than words. It matters little what we "resolve"; if we encourage dishonest manufacturers by prescribing their wares, we beget dishonesty. Some manufacturers, indeed, keep up a high standard through their own conscience, or through professional pride. All honor to them. On the whole, however, the exploitation of proprietary remedies is not altruism; it is mainly plain business, to be conducted according to the current rules of the game. What these rules shall be—whether they shall make for fairness or unfairness, sincerity or insincerity, truth or falsehood—this lies mainly if not entirely in the hands of the medical profession.

THE RESPONSIBILITY OF THE INDIVIDUAL.

Nor can we escape this individual responsibility by resorting to abstractions. The problem is eminently practical; and we must conceive our professional responsibility as equally practical. The profession in the abstract, the medical societies and journals, the Council, all the agencies of organization can help merely by informing, awakening and sustaining individual sentiment. Tangible results, however, are not the product of sentiment, but of action. In whatever way we look at it, the responsibility always returns to the individual physician—he is the man who carries the arms. It comes to him, not so much on the day when he votes for a resolution, but every day, every time when he writes a prescription. Whenever he picks up his prescription blank, he is not only directing the treatment of his patient; he is also directing the proprietary business, in all its ramifications; and beyond this, he is directing the future of therapeutics. With each prescription, he renders a decision whether truth or falsehood shall prevail; whether therapeutics shall be scientific or unscientific; whether the abuse of indiscriminate self-medication shall continue or not. It is the aggregate of these daily individual decisions which count; the responsibility rests on each of them. It is not our New Year's resolutions, but our daily actions which run this world.

PRESCRIBING KNOWN REMEDIES.

What then, can you, the individual physician do to further this movement? Everything! Your first duty is plain and simple: Never prescribe any product until you know the truth about it, at first hand, or through a reliable, and therefor unbiased, source; until you know what the remedy contains, and what it may reasonably be expected to do. It does not suffice to have known this "once"; be certain in your mind that you know it at the moment when you prescribe. This you owe to your patient, to your profession, and to yourself. It is as important with official articles as with the unofficial. As regards the proprietary articles, there is but one method of learning the truth, so far as I know, and this is through the reports of the Council.[1] Until an article has succeeded in complying with the rules and thus gaining admission to the list of the Council, it should not appeal to you, no matter what you learn from blotters, detail-men, disguised or undisguised "house organs," subsidized journals, or other biased parties. Turn to such a deaf ear. If every one would take this course and would altogether cease prescribing any remedy which is to him wholly, or in part, unknown, the dishonest proprietary remedies would disappear with one stroke; the worthy would be given a fair chance; the whole problem would be immensely simplified. Is this too much to ask?

TO DETERMINE THERAPEUTIC MERIT.

The next matter would be a judicious selection of the things which remain. A product may be sold in the most proper manner, but it may not be worth much. As I have emphasized so frequently, admittance by the Council implies only honesty, not merit. At some future day, perhaps, there may be sufficient data available to justify a future Council in exacting a high standard of merit—but the time is not yet ripe. At present the Council can help but little in this matter,

1. The reports of the Council as to the admitted products are embodied in its annual book "New and Non-official Remedies," which can be obtained from the American Medical Association, 103 Dearborn Avenue, Chicago. The price of this book, which is sold at cost, is six cents.

and the physician must resort to individual study—study in books, but especially applied study. The latter is the most important. Experiment is the only certain way of progress. Those who have the opportunity can render a most important service by determining the field of usefulness of the more promising of the honest new remedies. The reports of their results, favorable or unfavorable, would also aid the Council in exacting from manufacturers definite scientific proof of therapeutic actions as well as of chemical composition.

In this clinical work, however, it should be remembered that indecisive experiments are worse than none, for they will only tend to confusion. Those who lack the necessary facilities, material, or time, will do better to hold fast by what has been proven, and leave the task of "trying out" new things to others.

In conclusion, if we, each for himself, insist on the highest standard of honesty in our therapeutics—honesty in ourselves, honesty in the manufacturers and honesty in the products—the end, I feel certain, will be an art and science of therapeutics, such as at present is but a Utopian dream.

Correspondence

United States Opium Commission.*

DEPARTMENT OF STATE, WASHINGTON, D. C., July 30, 1908.

To the Editor:—In the autumn of 1906 the Imperial Chinese Government issued an edict commanding its viceroys, the Tartar generals and the governors of provinces to join in suppressing the opium habit among the Chinese people. In the previous May the English House of Commons, by unanimous vote, had expressed the opinion that the opium traffic between India and China was morally indefensible.

The British Government entered into an agreement with China, Jan. 27, 1908, to reduce the amount of opium exported from India to China by one-tenth per annum, so that it would be wiped out in ten years. The total amount exported at that time from India to China was about 51,000 chests. That amount is now being reduced at the rate of about 5,100 chests per annum. This agreement is contingent on the Chinese Government being able to show at the end of three years that it has made a sincere and effective effort not only to stamp out the use of opium among the Chinese, but also to stamp out the growth of the poppy. This, of course, will be an immense undertaking for the Chinese Government, as, according to the latest estimate we have, the production of opium in China alone amounts to about 325,000 piculs, while China's importations are about 54,000 piculs, a picul being about 133 pounds.

On March 8 last our very effective prohibition of the illicit use of opium went into operation in the Philippines, as the result of the investigation by the Philippines Opium Commission under the leadership of the Right Rev. Charles H. Brent. While this movement for the suppression of the opium traffic was going on, Secretary Root conceived the idea of helping China, as well as ourselves, by calling an international conference to study the opium question and decide, if possible, on some measure of joint action by the powers especially interested.

The nations invited to this conference were those with territorial possessions in the far east, Great Britain, Germany, France, Portugal, the Netherlands, China and Japan. All these powers consented, in April last, to appoint three commissioners each, to meet the American commissioners Jan. 1, 1909, at Shanghai, China. In the meantime each national commission is to study the question from a national point of view with relation to its social, economic and other sides.

Just before the adjournment of Congress $20,000 was appropriated in the sundry civil appropriation act to cover the expenses of the commission of the United States; and the President appointed the Right Rev. Charles H. Brent as chairman, Mr. Charles D. Tenney, who was Yuan Shi Ki's right-hand man in his educational reforms in China and is now the secretary of the American legation in China, and myself. Mr. Tenney is to remain in China and make a thorough study of the opium question there, while I am at present engaged on the study of the question as it affects our national life, and the international aspects of the case.

I am following every method that suggests itself, or is suggested to me, for getting accurate data as to the amount of opium actually needed to supply the legitimate demands of this country. The following table shows our practically net importations of crude opium containing 9 per cent. or more of morphin, of morphin and its salts, and of chandu or smoking opium. Inquiries are being directed to importers, to merchants and to manufacturers of morphin, to retailers, to physicians, to the police departments of our cities, to state and city health boards, in an effort to find out how much opium is licitly and illicitly used.

Years.	Opium crude, containing 9 per cent. or more morphin. Pounds.	Chandu. Pounds.	Morphin or its salts. Ounces.
1878-1882	1,341,702.44	375,315.83	71,474.75
1883-1887	1,664,712.25	447,329.53	97,264.25
1888-1892	2,353,307.00	351,556.25	128,155.00
1893-1897	3,125,642.00	481,678.90	84,410.50
1898-1902	1,992,693.63	676,675.50	143,660.50
1903-1907	2,436,771.54	783,258.82	59,060.00

I am getting estimates from manufacturers of morphin and from handlers of opium that anywhere from 60 to 75 per cent. of the crude opium is manufactured into morphin and estimates that from 50 to 90 per cent. of the morphin so manufactured is used illicitly, and that its use is on the increase among all classes of people, more especially among prostitutes and their followers, the criminal classes, and what might be termed our fast set. Much of this information is conjectural, of course. If there were some method by which we could get truthful answers from those who sell the drug illicitly, there would be no great difficulty in the question, but such answers are out of the question.

The surprising thing is the immense amount of smoking opium we import, paying our duty of $6 per pound, and this in spite of the fact that our Chinese population to-day is smaller than it was twenty years ago. It is impossible, judging from answers to inquiries that I have made among the Chinese, to suppose that they are using all of it. I have one estimate that there are over five thousand American smokers in New York city and I have another estimate that there are probably over a hundred thousand Americans who smoke opium.

It is such points as this that must be cleared up and if the members of the medical profession will send to me here in Washington, well considered statements as to the amount of the drug that, in their opinion, is illicitly used, it will aid the commission tremendously in its inquiry. The joint conference at Shanghai will study all the compiled data and our instructions are to try to agree on some joint recommendation to the various governments participating in the conference which will lead to international control of the opium traffic. Just what the lines of such recommendation will be it is impossible to say at present, but I have in mind the international regulations which governed the slave trade.

I sincerely hope that we may get the cooperation of the medical profession in this movement.

HAMILTON WRIGHT,
Acting Chairman.

*See editorial in this issue, page 678.

Medical Work in Vienna.

NEW YORK CITY, Aug. 12, 1908.

To the Editor:—Your editorial, "Medical Work in Vienna," in THE JOURNAL, July 25, is timely and, in the main, correct though based on resolutions, protests and correspondence originating from the discussions of the little colony of American physicians in Vienna. Under the circumstances, as I happen to be a recent "long-timer"—according to your classification, I

would add a word of information for the benefit of those who may be interested.

Vienna is the American physician's medical Mecca, and probably will remain so for a long time. In the first place, clinics are practically under one or two roofs—the *K. K. Allgemeine Krankenhaus* and the *K. K. Poliklinik*. Secondly, most of the eminent professors take more interest in teaching and in the scientific side of medicine than in private practice, while the American professor, even if inclined to teach, has not the time to divert from his lucrative practice. Moreover, the Viennese professor's talent is endowed, as it were, as he receives compensation from the Austrian government.

This little "changing" colony of American physicians who make Vienna their temporary home and medical Mecca, by the way, is not so little—as it numbers between 100 and 200, depending on the season. Moreover, the colony appreciating the increased power and influence resulting from organization, in 1904 organized and founded "The American Medical Association of Vienna," electing Dr. Ravold of St. Louis, who originally suggested the need of such a society, as its first president. Recently the association was incorporated, thus placing the organization on a recognized legal status in the Austrian courts. Article 2 of the constitution of the association states: "The objects of the society are to promote the social intercourse and the scientific advancement of its members, to provide information in regard to the scope and relative value of courses, and to furnish data for the rapid orientation of new members in regard to pensions, rooms, restaurants, etc.," and I may add, incidentally, to protect its members from the instructor who designs the course for the American with one eye on the scientific feature of the course and the other on the American's pocketbook.

Zum Beispiel: Last winter one or two *docents* and *Gehcimrats* raised the price of their courses; however, their conduct was reported to the "A. M. A. of Vienna" and as a result the leaders of said courses promptly got together and saw that the courses were not filled—when the aforesaid professors as promptly capitulated and were glad enough to return to the old rate.

The impression "that a knowledge of German is an essential, hardly a course being given in English," is misleading. The fact is, German is no longer an essential and to-day in Vienna the majority, indeed, most of the courses (aside from the university courses), are given in English. And this brings us to the discussion of the relative advantages of the "short-timer" and the "long-timer."

English courses are a distinct disadvantage to the "long-timer" who wishes to acquire the German since any foreign language is more readily assimilated when one hears and speaks it altogether. It is equally hard to avoid English in the pensions as it is in the courses, another disadvantage for the "long-timer" who is anxious to absorb German. However, the most plausible reason of the numerous English courses is German greed for American gold—for if one instructor gives his course in English and another does not, instructor No. 1 fills his course, gathers in the shekels, and No. 2 goes begging; ergo, Nos. 2, 3, etc., etc., are coerced to learn English and instruct in that language. This condition is a great boon to the "short-timer" and he really is the chief factor in its evolution. For this reason alone the "short-timer" (six to twelve weeks) can gain double or triple the amount of information in Vienna than in any other continental city in the same length of time; or, for that matter, in London or Edinburgh, since in the latter places, especially London, much time is lost between hospitals.

Just one other point in regard to the question of "cut-and-dried courses." Your criticism here is in a measure just; however, the leader of a course is privileged and often does dictate both the subject and duration of the course, and I may state in conclusion that this prerogative is being exercised more and more in consonance with the increased power of "the American Medical Association of Vienna," and therefore, I would advise every American on arriving in Vienna to join its ranks and foster himself by fostering this ever-growing, changing, medical colony.

G. E. DAVIS.

Bills Regulating Interstate Traffic in Drugs.

FORT COLLINS, COLO., July 28, 1908.

To the Editor:—I have read in THE JOURNAL, July 25, page 334, the bills introduced into the House of Representatives by the Hon. James Mann to regulate the transportation of dangerous and habit-forming drugs.

While I heartily approve of the general purpose of these bills and believe they would accomplish a great deal of good if enacted into law, still there is an omission in the second one which if not corrected or amended would be a source of great inconvenience and an injustice to many physicians. The first bill is all right in its provisions because it specifically states that: "Provided, however, the foregoing provisions shall not apply to articles sent in the ordinary course of business from manufacturers, jobbers or wholesale dealers to registered retail druggists, *legally authorized practitioners of medicine*, dentistry, etc."

The second bill, however, in its list of exceptions from these prohibitory provisions, fails to include legally authorized practitioners of medicine, and unless amended so as to include these words (legally authorized practitioners of medicine), would hamper the physician in securing supplies and restrict his choice of agents necessary for the interests of his patients.

This omission was doubtless an oversight, but as it is one which if enacted into law would work a serious injury to the physician and as on casual reading it may be easily overlooked; indeed, appears to have been by THE JOURNAL writer himself, who says: "The passage of these bills will not in any way interfere with the legitimate business of physician, manufacturer, wholesale druggist, or pharmacist, as all such busines is expressly exempt." I desire to call the attention of the profession to this omission and its far-reaching consequences and request that you publish this letter in THE JOURNAL.

E. STUVER, M.D.

VENTURA, CAL., Aug. 6, 1908.

To the Editor:—I note what you say in regard to the proposed bills introduced by Congressman Mann. I have read them, and if it is not a scheme to deliver the doctors absolutely into the hands of the retail druggists I am not good at guessing. It may be ignorance on my part to make me see it that way, but such is the case. In regard to the first bill, the reading conveys the impression that the welfare of the people was the prime cause and moving spirit of this enterprising bit of proposed legislation. The second is a bill relating to the transportation of habit-forming and poisonous drugs in interstate and foreign commerce and for other purposes.

The bill recites that it shall be unlawful for any person, firm or corporation to send, carry, ship or bring into any state, territory or the District of Columbia, by freight, express, mail or otherwise, from any other state, territory or the District of Columbia, or from any foreign country, directly to a consumer, or to sell, or furnish, or give away, or have in his or her possession except as provided for in this section in the territories or the District of Columbia, any of the substances named in the bill. It provides that it shall not apply to sales at wholesale, by jobbers, wholesalers and manufacturers to registered retail druggists, or to each other, or to sales made to manufacturers of medicinal remedies, or pharmaceutical preparations for use in the manufacture of such preparations, nor to sales to hospitals, colleges, scientific and public institutions. (*But not a word about the doctor.*)

The bill stipulates that it shall be unlawful for all others, except those excepted above, to introduce or have in possession any of the habit-forming or poisonous drugs, except on the prescription of a legally authorized practitioner of medicine, dentistry or veterinary medicine, and, further, it defines the amount that can be prescribed in each original prescription for a human being. In the case of chloral hydrate it allows only six doses in each original prescription, but in eucain, cocain and morphin the doctor has the glorious privilege of using 240 doses, and in case he prescribes hyoscin he can use 1,200 doses. Why the writer of the bill is so bitterly opposed to chloral hydrate I would like to know.

I note what you say in regard to these bills, and presume that you think the only legitimate way to practice medicine

is to prescribe. I will say that in my practice I prescribe, would rather do so than be troubled with filling prescriptions, but I do not propose (if I can help it) to have taken away from me the privilege of filling my own prescriptions; and I will venture the assertion that 95 per cent. of the physicians of the United States feel the same way.

It is all right to safeguard the health of the public; it is also wise to enact laws to punish sellers of abortifacients and habit-forming drugs when sold or used as such, but to handicap physicians with such legislation is unjust, unwise and a rank piece of class legislation. J. C. BYNUM.

[The bills referred to by our correspondents appeared in THE JOURNAL, July 25, page 335. The first clause of the bill objected to prohibits the interstate traffic in any of the drugs named except on the original prescription or written order of legally authorized practitioners of medicine, dentistry or veterinary medicine. As stated in our comments, we assume the object of the framers of the bill to be to put a stop to the treatment of diseases by mail-order methods—in other words, by advertising quacks—by the use of dangerous drugs. We are unable to see how this interferes with the physician prescribing or dispensing as he deems advisable. However, certain changes in the phraseology of the bill may be necessary to make its meaning clear and to secure the desired results.—ED.]

Quinin as a Local Anesthetic.

FREDONIA, N. Y., Aug. 10, 1908.

To the Editor:—Allow me to state that at the annual meeting of the Chautauqua County (N. Y.) Medical Society, held July 14, 1896, I reported that: "Quinin is a safe and efficient anesthetic when used hypodermatically and much safer than cocain."

A report of the proceedings of that meeting in the *Buffalo Medical Journal* of August, 1896, page 32, contains a reference to my report. My attention was called to the matter by an article in THE JOURNAL, August 8, by Dr. E. J. Brown on "Quinin Anesthesia." V. M. GRISWOLD, M.D.

Book Notices

WRITINGS OF SIR WILLIAM BROADBENT. Edited by Walter Broadbent, M.D., M.R.C.P. Cloth. Pp. 444. Price, $3.60. New York: Oxford University Press, 1908.

A volume of carefully selected medical essays by a great man is more valuable than most new text-books, although unfortunately this fact is not so generally appreciated as it should be. For many years, whatever Sir William Broadbent wrote has been read by the profession with avidity, for his authority is undisputed. This volume shows well the breadth of his accurate knowledge. The first seven essays treat of cardiovascular diseases; four of pulmonary diseases; four of renal diseases; fourteen of neurologic subjects and as many more of miscellaneous topics. They have been selected from his contributions to periodical literature and medical societies and date from 1863 to 1907. Although a few were written a generation ago, they have not lost interest in that time.

Many think of Broadbent as especially a writer on diseases of the heart and blood vessels, but this collection and the bibliography appended to it show his literary fecundity and his breadth of knowledge. The first essay in the group of neurologic ones is a reprint of that in which he expounds what is sometimes known as Broadbent's hypothesis, by which he attempts to remove the difficulties attending the application of Dr. Carpenter's theory of the function of the sensorimotor ganglia in the common form of hemiplegia.

These articles are so full of thoughtful criticisms and of practical suggestions, both as to the nature of disease and its treatment that they will be found interesting and useful by studious practitioners of medicine. A few describe curious cases and results; notably, the account of a case of hydrophobia in which the patient recovered and which the author contrasts with a case in which recovery did not take place, and with one that simulated the disease. The brief chapter written in 1866 on a new cure for cancer must also be looked on as a curiosity, but an interesting one.

THE AIX-LES-BAINS THERMAL TREATMENT. By H. Forestier, M.D., Fellow of the Royal Society of Medicine, London. Cloth. Pp. 65. Price, 60 cents. Philadelphia: P. Blakiston's Son & Co., 1908.

The mode of treatment which has been evolved at Aix consists of massage while the douche is playing on the patient. The two are given together, the spout of the douche being cleverly guided by the masseur. The author advises rather copious drinking of a spring water which contains no sulphur and only small amounts of any mineral matter. The spring is known as the *Deux Reines*. A chapter is devoted to the physiologic action of the treatment. Twenty-seven pages consider its adaptability to the treatment of diseases and especially gout, rheumatism and other joint inflammations. The last pages contain information about the excursions from Aix, the amusements and varied practical advice. The best season to visit Aix is from May to October.

GASTRIC SURGERY. Being the Hunterian Lectures, Delivered Before the Royal College of Surgeons of England on Feb. 19-21, 1906, by H. J. Paterson, M.A., M.B., B.C., Hunterian Professor of Surgery and Pathology at the Royal College of Surgeons, Assistant Surgeon to the London Temperance Hospital. Cloth. Pp. 181. Price, $2.00 net. New York: William Wood & Company.

This little volume consists of the Hunterian Lectures for 1906. It deals chiefly with the end-results of operations on the stomach, for ulcer of the stomach, benign obstruction of the pylorus and cancer of the stomach. The author has displayed a great deal of energy and zeal in personally following up cases, in order to determine the end-result and in getting direct and personal communications from other operators concerning their end-results. The deductions may be accepted, therefore, as a good presentation of the subject up to that time. Symptoms and diagnosis are not touched on, but in a short appendix the author gives his own technic of preparing a patient for operation, of performing the operation and of the after-treatment.

THE TECHNIQUE OF VAGINO-PERITONEAL OPERATIONS. By E. Wertheim and Th. Micholitsch. Translated into English by Cuthbert Lockyer, M.D., B.S., M.R.C.P. (Lond.), F.R.C.S. (Eng.), etc. With 138 Illustrations. Cloth. Pp. 323. Price, $7.50. MacMilland & Co., Ltd., St. Martin's Street, London, 1907.

Vagino-peritoneal surgery is the most difficult branch of operative gynecology to describe; likewise, also, it is difficult to understand from a written description of the operations. Hence the fact that the English translation of Wertheim and Micholitsch is now obtainable will be welcomed by those who know of the original work in German and of its practical value. The book consists of but little text—just enough to explain the cuts; but the illustrations are so satisfactory that descriptive matter is unnecessary. There are 138 full page illustrations covering all the operations included in the title, from ordinary colpotomy to complete hysterectomy with the removal of the adnexa. The illustrations include each detail of the operation and are arranged to demonstrate each operation step by step. The book will prove of great value to those who do not have the necessary knowledge of the details of such operations, and who find it necessary to perform them.

Miscellany

Rat Leprosy.—Passed Assistant Surgeon G. W. McCoy reports (Public Health Reports, U. S. P. H. and M.-H. S.) the finding of a leprosy-like disease among the rats of San Francisco in the proportion of 1 in 614 rats examined, and it is probable that it is even more frequent. The essential lesion or at least the one invariably found, has been a more or less general infiltration of the subcutaneous tissue and the peripheral lymph glands with an enormous number of fine white or slightly yellowish granules. This layer of tissue is usually mistaken for fat. The peripheral lymph glands on section are seen to contain a number of whitish points corresponding in appearance to the granules found in the subcutaneous tissues. The pelvic and mesenteric glands were in one instance decidedly enlarged and showed numerous leprosy-like bacilli in smear preparations. Alopecia, more or less extensive, was present in 55.5 per cent. of the cases; ulceration in 63.6 per cent. The discharge from the ulcers was usually of a mealy,

dryish character, and consisted of enormous numbers of the bacilli and a few remnants of cell débris. In one rat only were lesions found in the internal organs, consisting of granules on the serous membranes, in the liver and the spleen. These lesions were made up almost entirely of masses of the peculiar bacilli. Many bacilli were found in the bladder, but none in the intestinal contents, nor in the nasal mucus. The organs in general were normal, but a nephritis was generally found which is not, however, attributable to the leprosy, as it is found in rats not affected by this disease and appears to be due to the action of poisons which have been used with a view to the destruction of the pests. The bacilli were acid and alcohol fast and were morphologically indistinguishable from the bacillus of Hansen. They were found in the protoplasm of the cells which they had, in some cases, replaced entirely, so that the nucleus of the cell was seen lying in a mass of bacilli having the shape of a cell. The cell nuclei contained in these bacterial masses retained their staining properties well. The disease corresponds closely with previously published descriptions. In the opinion of Dr. W. R. Brinckerhoff the geographic distribution of the disease indicates that it is not identical with human leprosy, but related to it in some such way as bovine is to human tuberculosis.

Sprayed Milk: Homogeneization to Increase Digestibility of Milk.—This is the term applied to a physical-mechanical means of rendering cow's milk more digestible for infants. The milk is transformed into an emulsion of the fatty elements, rendering it impossible for them to separate off into cream. The milk is forced under pressure through a spout with extremely fine perforations. This breaks up the globules of fat into minute particles, and as the cream-rising property is proportional to the size of the fat globules it is very low with this sprayed milk and the clots are light, porous and readily acted on by the gastric juice. In the *Bulletin Général de Thérapeutique*, May 30, 1908, H. Bouquet relates his experiences with this sprayed emulsionized milk in infant feeding, citing a few typical examples to show the exceptional digestibility of milk thus treated, as manifested in the rapid changes in the stools and the increase in weight.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

PROTEID IN URINE. THE CAMMIDGE REACTION.

CHEYENNE AGENCY, S. DAK., Aug. 5, 1908.

To the Editor:—1. Recently I had occasion to examine a specimen of urine which contained a large quantity of proteid. Most of it could be separated by saturation with magnesium sulphate. The filtrate gave only a very slight precipitate on adding acid and boiling, showing that the larger portion of the proteid consisted of globulin. Is anything known of the conditions under which this proteid appears in the urine? von Jaksch, Haillburton and Greene give very little information. The patient was suffering from chronic osseous tuberculosis. I looked for casts, but did not find any. However, as I could obtain only one specimen and have no centrifuge, I do not look on that finding as conclusive. The liver was not enlarged.

2. If possible please give the Cammidge reaction in chronic pancreatitis.

S. W. SMITH.

ANSWER.—1. It is generally stated that serum globulin accompanies serum albumin in the urine in varying proportions, but little is known of any special significance to be attached to serum globulin. Globulin has been found in large quantity in amyloid infiltration of the kidney, acute nephritis, pyonephrosis and in the severe hyperemia induced by cantharides poisoning. Cioetta (*Cor.-Bl. f. schweiz. Aerzte*, April 15, 1903) concludes that the amount of globulin varies with the acuteness of the process. In acute nephritis the ratio of albumin to globulin might stand as three to one, while in contracting kidney it would be found as great as nine to one and in parenchymatous nephritis the proportion would vary between these two extremes.

2. We have already published the details of the Cammidge reaction, but repeat them here:

A specimen of the twenty-four hours' urine, or of the mixed morning and evening secretions, is filtered several times through the same filter paper and examined for albumin, sugar, bile, urobilin and indican. A quantitative estimation of the chlorids, phosphates and urea is also made, and the centrifugalized deposit from the urine examined microscopically for calcium oxalate crystals. If the urine is found to be free from sugar and albumin, and of an acid reaction, 1 c.c. of strong hydrochloric acid (specific gravity 1.16) is mixed with 20 c.c. of the clear filtrate, and the mixture gently boiled on the sandbath in a small flask, having a long-stemmed funnel in the neck to act as a condenser. After ten minutes' boiling the flask is well cooled in a stream of water, and the contents made up to 20 c.c. with cold distilled water. The excess of acid present is neutralized by slowly adding 4 grams of lead carbonate. After standing for a few minutes the flask is again cooled in running water and the contents filtered through a well-moistened, close-grained filter paper until a perfectly clear filtrate is secured. The filtrate is then well shaken with 4 grams of powdered tribasic lead acetate and the resulting precipitate removed by filtration, an absolutely clear filtrate being obtained by repeating the filtration several times if necessary. The large amount of lead in solution is removed either by treatment with a stream of sulphuretted hydrogen or by precipitating the lead as a sulphate. For this purpose the clear filtrate is well shaken with 2 grams of finely-powdered sodium sulphate, the mixture heated to the boiling point, then cooled to as low a temperature as possible in a stream of cold water, and the white precipitate removed by careful filtration; 10 c.c. of the perfectly clear transparent filtrate is made up to 18 c.c. with distilled water and added to 0.8 gram of phenylhydrazin hydrochlorate, 2 grams of powdered sodium acetate and 1 c.c. of 50 per cent. acetic acid contained in a small flask fitted with a funnel condenser. The mixture is boiled on a sandbath for ten minutes, and then filtered hot through a filter paper moistened with hot water into a test-tube provided with a 15 c.c. mark. Should the filtrate fail to reach the mark, it is made up to 15 c.c. with hot distilled water. In well-marked cases of pancreatic inflammation a light yellow, flocculent precipitate should form in a few hours, but it may be necessary to leave the preparation to stand over night before a deposit occurs. Under the microscope the precipitate is seen to consist of long, light yellow, flexible, hair-like crystals, arranged in sheaves which, when irrigated with 33 per cent. sulphuric acid, melt away and disappear in from ten to fifteen seconds after the acid first touches them. The urine employed for the experiment should be fresh, and not have undergone fermentative changes. If alkaline in reaction it should be made acid with hydrochloric acid before the test is commenced; any glucose that may be present should be removed by fermentation after the urine has been boiled with the acid, and the excess neutralized.

BOOKS ON TUBERCULOSIS.

SALINAS CITY, CAL., Aug. 7, 1908.

To the Editor:—Please suggest to me some short book or pamphlet on tuberculosis, which would be suitable to place in the hands of a lay-tuberculous patient. I should prefer something encouraging, giving statistics of the cures that have been made and a general idea of the pathologic condition present and the aims of treatment, particularly in a case of laryngeal tuberculosis. Can you also refer me to statistics showing the probability of recovery from tuberculosis after a certain attained age, treatment to be given in a sanitarium?

N. E. RICHARDSON.

ANSWER.—There are few suitable short books in English giving accurate information to consumptive patients. Most are too technical and dwell more on the general crusade against the disease than on the most important practical points of value to a patient. Excellent popular articles appear in the monthly *Journal of the Outdoor Life* (Trudeau, N. Y.), the official organ of the National Association for the Study and Prevention of Tuberculosis. The following three small volumes may be recommended for popular reading:

Knopf, S. A.: "Tuberculosis as a Disease of the Masses," Prize essay, 4th Am. ed., 1907. M. Firestack, New York. Paper, 25 cents; cloth, 50 cents.

Flick, L. F.: "Consumption a Curable and Preventable Disease," 1903. David McKay, Philadelphia. $1.

Gardiner, C. F.: "Cure of the Consumptive," 1900. G. P. Putnam's Sons, New York. $1.

These books give in simple language the main facts about the statistics, prevention and treatment of the disease, including laryngeal tuberculosis, and are preferable for lay readers to the many pamphlets which are issued officially or privately and which often contain incorrect and misleading information. Much harm is often done by such literature.

A commendable little volume has lately been written by a layman, (Price, G. B., "Gaining Health in the West," 1907, New York, B. W. Heubsch), which although dealing particularly with the management of the disease in remoter climates, treats the subject in a hopeful and thoroughly practical manner.

The best recent statistics on results of sanatorium treatment can be found in the excellent report by H. T. Bulstrode, on "Sanatoria for Consumption," London, 1908.

THE FOLIN METHOD FOR ESTIMATING THE QUANTITY OF AMMONIA IN THE URINE.

CHICAGO, June 27, 1908.

To the Editor:—When I saw the above heading over an article by Dr. Buhlig in THE JOURNAL, June 27, I thought: Well, finally, I shall know what Folin's method is. I read the article twice and when I had finished, I knew just as much about the Folin method as I knew before, *i. e.*, practically nothing. Will you give a detailed description of the test? S. K.

ANSWER.—It is to be regretted that an omission was made in the publication of the article by Walter H. Buhlig on "The Folin Methods of Estimating the Quantity of Ammonia in the

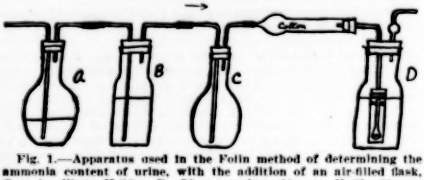

Fig. 1.—Apparatus used in the Folin method of determining the ammonia content of urine, with the addition of an air-filled flask, C: A, dilute H_2SO_4; B, 50 c.c. urine, 20 gm. NaCl, 20 c.c. petroleum, 2 gm. Na_2CO_3, added last; C, air flask; D, 30 c.c. n/5 H_2SO_4 + distilled H_2O.

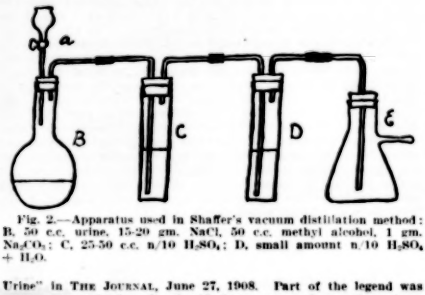

Fig. 2.—Apparatus used in Shaffer's vacuum distillation method: B, 50 c.c. urine, 15-20 gm. NaCl, 50 c.c. methyl alcohol, 1 gm. Na_2CO_3; C, 25-50 c.c. n/10 H_2SO_4; D, small amount n/10 H_2SO_4 + H_2O.

Urine" in THE JOURNAL, June 27, 1908. Part of the legend was omitted by mistake; it should have appeared as given here. This makes clear the reference to reagents mentioned in the body of the original article by Dr. Buhlig. It might be added that a suction pump is attached to the right hand end of each apparatus, in the Folin apparatus (Fig. 1) to draw air through and to carry the liberated ammonia from bottle B into the standard acid, and in the Shaffer apparatus (Fig. 2) to make a low pressure so that the liberated ammonia will distill over from flask B into the bottles of standard acid.

TREATMENT OF AMEBIC DYSENTERY.

WAKE FOREST, NO. CAROLINA, Aug. 10, 1908.

To the Editor:—What is the best treatment for amebic dysentery? What is the prognosis as to cure?

WATSON S. RANKIN.

ANSWER.—In the treatment of amebic dysentery a careful regulation of the diet and a cleansing of the alimentary canal by magnesium sulphate or other saline, are rational preliminary measures. Ipecac should then be given according to the precautions instituted by those who practice in tropical regions. (See abstract of Cantlie's article in THE JOURNAL, Sept. 7, 1907, p. 863.)

The use of quinin sulphate or bisulphate in injections, is a local measure, which is sometimes promptly successful. The solution can only be expected to act on amebæ in the lumen of the intestine and will naturally be most efficient when mucus has been washed away from the walls and the surfaces of ulcerated patches. The strength of the solution should be from 1 to 5,000 to 1 to 2,500 and the quantity introduced should be sufficient to fill the intestine as high as ulcers are probably present. Thymol, 1 to 2,500, has been used for the same purpose. For high injections it is not necessary to introduce the colon tube more than six inches, as it can not be pushed beyond the sigmoid, but it is possible by elevating the hips to make the liquid reach even to the ileocecal valve. Too great distention of the bowels should be avoided.

When a case of ulcerative dysentery has persisted more than six months the rational treatment is to perform appendicostomy or a right inguinal colostomy and by maintaining an artificial anus give rest and permit thorough local treatment of the colon through the artificial anus.

The prognosis of amebic dysentery should be reserved, but the disease is not necessarily fatal, even though abscess of the liver has occurred. The latter complication, however, greatly increases the seriousness of the outlook.

USES OF APOCODEIN, CAULOPHYLLUM AND SODIUM SUCCINATE.

ALDEN BRIDGE, LA., Aug. 11, 1908.

To the Editor:—1. I have seen the statement made in current literature, that apocodein is a reliable and efficient purgative when administered hypodermically. Will you kindly state whether there have been reports of clinical observations substantiating this claim and if so, give references. 2. Is there any proof to support the claim that caulophyllum is a reliable parturifacient? 3. What is the status of the sodium succinate treatment for gallstones?

JOHN H. SCALES.

ANSWER.—1. This action of apocodein appears to be established. The British Codex (page 13) says: "In the case of healthy people it is generally efficient in producing one or more stools within ten minutes after the injection; but it is only likely to be valuable in therapeutics, for those patients in whom constipation is due to excessive inhibition. When constipation is caused by inertia of the muscle it is not likely to be of use."

2. The evidence as to the parturifacient action of caulophyllum is insufficient to warrant such a claim.

3. Sodium succinate is not mentioned by standard text-books as useful for the treatment of gallstones.

IDENTITY OF THYMIC ACID.

SPRINGFIELD, MASS., Aug. 7, 1908.

To the Editor:—Is thymic acid identical with thujetic acid of arbor vitæ or some other organic acid? I am unable to find any such acid named in any book on materia medica in the U. S. or National Dispensatories or elsewhere. I only find thujetic acid from arbor vitæ. Dr. E. Schmoll, of San Francisco, in his paper on gout in THE JOURNAL, April 29, 1905, mentions it as helping to keep uric acid in solution in the blood. DANIEL E. KEEFE.

ANSWER.—Thymic acid is a product of the hydrolysis of thymonucleic acid, which is obtained from the nucleoproteid of the thymus gland. Thymic acid is a body containing nitrogen and phosphorus and having the formula $C_{10}H_{16}N_3P_2O_{13}$. It is easily soluble in cold water. It is precipitated from its acetic acid solution by peptone and albumin. The precipitate is soluble or insoluble with difficulty in hydrochloric acid. Thymic acid combines with albuminates to form bodies which are not identical with paranucleins. By further hydrolysis it is reduced to thymin, which has the formula $C_5H_6N_2O_2$. So far as we know, thymic acid is not in the market as a therapeutic agent. Thymic acid derived from thymus must not be confounded with thymol obtained from thyme, which is sometimes called thymic acid and is referred to under this name in the U. S. and National Dispensatories. Thymic acid is quite distinct from thujetic acid.

ANSTIE'S RULE FOR ALCOHOLICS.

WALLACE, IDAHO, July 7, 1908.

To the Editor:—Where can I find "Anstie's rule for alcoholics" as used in connection with insurance examinations.

HERBERT H. JUDD.

ANSWER.—Anstie's rule concerning the use of alcohol, we believe, was first enunciated by Dr. Francis Edmund Anstie, a London physician, in his monograph on "The Uses of Wine in Health and Disease" (J. S. Redfield, N. Y., publisher), 1870. Briefly, it is to the effect that the maximum amount of absolute alcohol which can be taken by an adult without injury is one and a half ounces daily. This is equivalent to about three ounces of whisky, brandy, gin or rum, about four wineglassfuls of sherry, or other strong wine, to one pint of claret, champagne or other light wine, to three glasses of strong ale or porter, or five glasses of beer or light ale.

LANTERN SLIDES TO ILLUSTRATE SPREAD OF CONTAGIOUS DISEASES.

A correspondent desires information as to where he can purchase lantern slides with which to illustrate a lecture to be given before laymen on "The Prevention of the Spread of Contagious Diseases." Similar queries have been received several times and we should be very glad to get information for publication relative to where such slides can be obtained. Reaching the laymen through lectures illustrated by lantern slides is happily becoming more and more common and undoubtedly individuals here and there have secured slides as means of illustration that could be put to a wide use if such illustrations could be made obtainable by others. We repeat, we shall be glad to get information from physicians regarding the subject.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ended Aug. 15, 1908:

Blanchard, Robert M., capt., M. C., leave of absence for ten days is extended twenty days.

Heysinger, James D., capt., M. C., granted leave of absence for fourteen days.

Scott, George H., capt., M. C., granted leave of absence for one month after return of troops from maneuver camp.

Reynolds, Charles R., capt., M. C.; Huber, Edward G., first lieut., M. C.; Lamble, John S., Jr., first lieut., M. C., left camp at Chickamauga Park, Ga., for camp at Fort Riley, Kan.

Crabtree, George H., capt., M. C., left Ancon, Canal Zone, on leave of absence for fifty-four days.

The following named first lieuts., M. R. C., ordered to active duty at the stations where they have been serving as contract surgeons:

Dade, Waller H.	Jordan, Edward H.
de Quevedo, Luis G.	Warringer, Benjamin B.
Wallace, George S.	Hull, Alva R.

Suggs, Frank, first lieut., M. R. C., ordered from Fort Niagara, N. Y., to Fort Washington, Md., for temporary duty during the absence of Capt. Samuel J. Morris, M. C.

Trotter-Tyler, George, first lieut., M. R. C., ordered from Fort Adams, R. I., to Fort Monroe, Va., for temporary duty.

Hammond, William G., dental surgeon, ordered from Fort Logan, Colo., to Denver, Colo., for temporary duty.

Gunckel, George L., dental surgeon, ordered to Fort Oglethorpe, Ga., for temporary duty.

Hill, Eben C., first lieut., M. R. C., ordered to active duty and assigned to Fort Porter, N. Y.

Tignor, Edwin P., dental surgeon, granted twenty-four days' leave of absence.

Birmingham, H. P., lieut-colonel, M. C., detailed member of examining board, appointed in par. 28, S. O. 98, April 25, 1908, War Department, vice Col. Charles B. Byrne, M. C.

So much of par. 5, S. O. 152, June 29, 1908, War Dept., as directs the officers therein named to report to Col. Charles B. Byrne, M. C., as president of the examining board, is amended so as to direct them to report to Col. Valery Havard, M. C., president of the board, vice Colonel Byrne.

Raymond, Henry L., Kendall, William P., Morris, Edward R., Harris, H. S. T., majors, M. C., ordered to report in person, on Sept. 21, 1908, to Col. Valery Havard, M. C., president of the examining board at the Army Medical Museum, Washington, D. C., for examination to determine their fitness for promotion.

Anderson, E. H., first lieut., M. R. C., ordered to return to station, Fort Wingate, N. Mex., from duty in field.

Koerper, C. E., capt., M. C., granted leave of absence from Cuba, to commence about September 11 and ending October 7, with permission to visit the United States.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the two weeks ended Aug. 15, 1908:

Carpenter, D. N., surgeon, detached from the naval station, Cavité, P. I., and ordered home to wait orders.

Morris, L., surgeon, detached from the naval torpedo station, Newport, R. I., and ordered to the naval station, Cavité, P. I., sailing from San Francisco, Cal., about September 5.

Peck, A. E., P. A. surgeon, ordered to the naval torpedo station, Newport, R. I.

Minter, J. M., asst.-surgeon, ordered to the naval recruiting station, Cincinnati, Ohio, when discharged from treatment at the naval hospital, Mare Island, Cal.

Hermesch, H. R., asst.-surgeon, detached from the naval recruiting station, Cincinnati, Ohio, and ordered to the *California*.

Farwell, W. G., P. A. surgeon, detached from duty at Camp Ellicott, Isthmus of Panama, and ordered to the naval recruiting station, Philadelphia, Pa.

Mann, W. L., Jr., acting asst.-surgeon, ordered to the naval hospital, Newport, R. I.

Urie, J. F., surgeon, placed on the retired list from Aug. 1, 1908, in accordance with section 1453, Revised Statutes.

Boyd, J. C., medical director, detached from command of the Naval Medical School Hospital, Washington, D. C., and ordered to continue duties as President of the Naval and Medical Examining Boards at that school.

Urie, J. F., surgeon, retired, ordered home when discharged from treatment at the Naval Hospital, Mare Island, Cal.

Turner, H. W. B., asst.-surgeon, appointed asst.-surgeon from July 20, 1908.

Harmon, G. E. H., medical director, ordered to command the Naval Medical School Hospital, Washington, D. C.

Haywood, A. B., asst.-surgeon, detached from duty with the marine detachment at Camp Elliott, Isthmian Canal Zone, Panama, and ordered to the Naval Recruiting Station, Pittsburg, Pa.

Cohn, I. F., asst.-surgeon, ordered to the Naval Hospital, Mare Island, Cal.

Shepard, G. W., asst.-surgeon, detached from the Naval Hospital, Mare Island, Cal., September 1, and ordered to the Naval Medical School, Washington, D. C., October 1, for instruction.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Aug. 12, 1908:

Mead, F. W., surgeon, granted leave of absence for one month, from Aug. 26, 1908.

Woodward, R. M., surgeon, granted leave of absence for 13 days, from Aug. 24, 1908.

Cobb, J. O., surgeon, directed to proceed to Chicago, for special temporary duty, on completion of which to rejoin his station at Milwaukee, Wis.

Goldberger, J., P. A. surgeon, detailed to represent the service at the International Fishery Congress, to be held in Washington, D. C., Sept. 22-26, 1908.

Vogel, C. W., P. A. surgeon, relieved from special temporary duty at San Juan, Porto Rico, and directed to report at Bureau, Washington, D. C.

Sweet, E. A., asst.-surgeon, granted leave of absence for 2 months, from Aug. 18, 1908.

Miller, W. W., asst.-surgeon, granted leave of absence for 6 days, from July 27, 1908, under paragraph 191, Service Regulations.

Dunn, James, acting asst.-surgeon, granted leave of absence for 30 days, from Aug. 17, 1908.

Gustetter, A. L., acting asst.-surgeon, granted leave of absence for 2 days, from Aug. 10, 1908.

Hicks, B. I., acting asst.-surgeon, granted leave of absence for 23 days, from Aug. 14, 1908.

McGinnis, R. H., acting asst.-surgeon, leave of absence granted July 17, 1908, for 15 days, from Aug. 17, 1908, revoked.

Seavey, L. T., acting asst.-surgeon, leave of absence granted amended so as to grant him 21 days from Aug. 3, 1908.

Tarbell, R. C., acting asst.-surgeon, excused from duty without pay, Aug. 31 to Sept. 30, 1908, inclusive.

Wakefield, H. C., acting asst.-surgeon, granted leave of absence for 12 days, from Aug. 8, 1908.

Gahn, H. E., pharmacist, granted leave of absence for 11 days, from Aug. 10, 1908.

PROMOTION.

Comfort, Newton C., pharmacist, promoted to pharmacist of the second class.

APPOINTMENT.

Stowe, Dr. Leroy M., appointed an acting asst.-suregon, for duty in the office of the American Consul at Tampico, Mexico.

BOARDS CONVENED.

A board of medical officers was convened to meet at Baltimore, Aug. 12, 1908, for the purpose of making a physical examination of a surfman of the Life-Saving Service. Detail for the board: P. A. surgeon J. T. Burkhalter, chairman; Asst.-Surgeon H. J. Warner, recorder.

A board of medical officers was convened to meet at San Francisco, Aug. 14, 1908, for the purpose of making a physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon H. W. Austin, chairman; P. A. surgeon W. W. King, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Aug. 14, 1908:

SMALLPOX—UNITED STATES.

California: San Francisco, July 18-25, 2 cases; San Diego County, June 1-Aug. 3, 98 cases.
Illinois: Chicago, July 25-Aug. 1, 2 cases.
Indiana: Fort Wayne, July 26-Aug. 1, 1 case; Indianapolis, July 26-Aug. 2, 1 case; La Fayette, Aug. 27-Aug. 3, 1 case; South Bend, July 25-Aug. 1, 2 cases.
Iowa: Burlington, July 15, 1 case.
Michigan: Detroit, July 25-Aug. 1, 1 case.
Missouri: St. Joseph, July 18-25, 4 cases.
Ohio: Dayton, July 25-Aug. 1, 1 case.
Texas: San Antonio, July 18-Aug. 1, 3 cases.
Washington: Spokane, July 18-25, 7 cases.
Wisconsin: Milwaukee, July 1-Aug. 1, 5 cases.

SMALLPOX—FOREIGN.

Arabia: Aden, June 30-July 13, 6 deaths.
Canada: Halifax, July 25-Aug. 1, 1 case.
China: Shanghai, June 21-28, 2 cases, 1 death.
Egypt: Cairo, July 1-15, 9 cases, 6 deaths.
India: Bombay, June 23-July 7, 34 deaths; Calcutta, June 6-20, 16 deaths.
Italy: General, July 5-19, 72 cases; Naples, July 4-18, 35 cases, 3 deaths.
Java: Batavia, June 13-27, 9 cases.
Portugal: Lisbon, July 11-18, 1 case.
Russia: Moscow, July 6-11, 14 cases, 14 deaths; Riga, July 11-18, 5 cases; St. Petersburg, July 4-11, 47 cases, 13 deaths; Warsaw, May 30-June 6, 7 deaths.
Spain: Valencia, July 11-18, 7 cases, 2 deaths.
Turkey: Constantinople, July 5-12, 5 deaths.

YELLOW FEVER.

Brazil: Manaos, June 29-July 11, 5 cases, 7 deaths.
Mexico: Veracruz, Aug. 8, 1 case, Aug. 10, 1 case.

CHOLERA.

China: Amoy, Aug. 11, present; Hongkong, July 13-27, 5 cases, 4 deaths.
India: Bombay, June 23-30, 1 death; Calcutta, June 6-20, 90 deaths; Rangoon, June 13-20, 6 cases.
Russia: Batoom District, Aug. 10, present; Moscow, present; Rostov, present.

PLAGUE.

Azores: Fayal, to Aug. 10, 7 cases, 2 deaths; Terceira, 17 cases, 10 deaths.
Brazil: Rio de Janeiro, July 11-25, 7 cases, 7 deaths.
Chile: Antofagasta, July 4, 3 cases; Iquique, 4 cases.
China: Hongkong, June 13-27, 160 cases, 120 deaths.
Egypt: General, July 8-14, 22 cases, 9 deaths; Alexandria, July 10-16, 4 cases, 2 deaths; Port Said, July 11, 2 cases, 1 death.
India: General, June 21-27, 563 cases, 483 deaths; Bombay, June 23-July 7, 54 deaths; Calcutta, June 6-20, 71 deaths; Rangoon, June 13-20, 40 deaths.
Peru: General, July 6-11, 47 cases, 28 deaths; Callao, 3 cases, 1 death; Lima, 6 cases, 3 deaths.

Marriages

SAMUEL C. NIEMANN, M.D., to Miss Carrie M. Frank, both of Dayton, Ohio, August 6.

HENRY T. CUMMINGS, M.D., to Miss Laura Madelyn Dowling, both of Chicago, July 7.

JAMES M. BONNAR, M.D., to Miss Jennie L. Forsyth, both of New Bedford, Mass., August 4.

GEORGE W. DAINTY, M.D., to Miss Bessie Mabel Albee, both of Somerville, Mass., August 5.

JOHN BUCHANAN WILSON, M.D., to Miss Emily May Trotter, both of Ottumwa, Iowa, August 5.

CHARLES B. DIRKS, M.D., La Grange, Ill., to Miss Alice A. Thompson of Madison, Wis., August 1.

RICHARD GLENN KIBBEY, M.D., Trenton Falls, N. Y., to Miss Agnes Doherty of Utica, N. Y., August 4.

HENRY G. WESTPHAL, M.D., Polar, Wis., to Miss Nellie Countryman of Birmingham, Iowa, August 5.

EDWARD MILTON BROWN, M.D., Chicago, Ill., to Miss Harriet Chamberlain Drew of Brooklyn, N. Y., August 11.

MONROE M. GHENT, M.D., St. Paul, Minn., to Fräulein Rosa Wilser of Vienna, Austria, at Chicago, Ill., August 12.

THOMAS PUGH MCCORMICK, M.D., Baltimore, Md., to Miss Leonora Clifton Franklin of San Antonio, Texas, in New York City, August 5.

ARCHIBALD HODGE LOGAN, M.D., Pittsburg, Pa., to Miss Amy H. Dunlap of Washington, Pa., at Hamills Point, Muskoka, Ont., Canada, August 6.

Deaths

Victor H. Coffman, M.D. Jefferson Medical College, Philadelphia, 1866; surgeon of the Thirty-fourth Iowa Volunteer Infantry for three years during the Civil War; and brevetted lieutenant-colonel for meritorious services at the battle of Mobile; a member of the American Medical Association; and vice-president of the Jefferson College Alumni Association; one of the founders, at one time president, and for many years professor of theory and practice of medicine in Omaha Medical College; for many years chief of staff of St. Joseph's Hospital; said to have been the first practitioner in Nebraska to apply a plaster-of-Paris dressing for curvature of the spine; the first to perform ovariotomy in Nebraska; and the first to perform thyroidectomy in America; died at his home in Omaha, August 4, from multiple neuritis, after an illness of 28 months, aged 68.

George Michael Edebohls, M.D. College of Physicians and Surgeons in the City of New York, 1875; a member of the American Medical Association, American Gynecological Society, and fellow of the New York Academy of Medicine; secretary of the New York Pathological Society, and a member of the German Medical Society; professor of diseases of women at the New York Post-Graduate Medical School and Hospital; attending gynecologist to St. Francis and the Post-Graduate hospitals; and consulting gynecologist to St. John's Hospital, Yonkers, and Nyack Hospital; a specialist in abdominal surgery, whose most noteworthy recent work was the operation of decapsulation of the kidney for the relief of nephritis; died in his apartments in New York City, August 8, from Hodgkin's disease, after an illness of four months, aged 55.

William T. Peyton, M.D. Louisville National Medical College, Medical Department, State University, Louisville, 1889; professor of pathology in that institution from 1890 to 1892, professor of physiology from 1892 to 1894, and professor of principles and practice of medicine from 1894 to 1900; of Louisville; while under arrest charged with performing a criminal operation, is said to have shot himself in the head, and died from the injuries in the Louisville City Hospital, August 10, aged 56.

Frederick Russell Cummings, M.D. Medical School of Harvard University, Boston, 1898; a member of the American Medical Association; member of the assistant staff of the Margaret Pillsbury General Hospital, Concord, N. H.; and medical director of the State Security Life and Accident Company, Concord; died at the Concord City Hospital, August 8, from septicemia, aged 35.

Walter Hurst, M.D. Medical College of Georgia, Medical Department of University of Augusta, 1905; B.S.C. London, 1883; L.S.A. 1889; associate of Owens College, Manchester, England; fellow of the Anthropological Institute and member of the British Association for the Advancement of Science; died at his home in Detroit, Mich., from cerebral hemorrhage, August 6, aged 51.

Wallace Reverdy Bishop, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1895; a member of the Medical Association of the State of Alabama; sometime president and secretary of the Talladega County Medical Society; and twice alderman of Talladega; died at his home in that city, August 4, after an illness of several months, aged 35.

Lawrence H. Brundage, M.D. Medical College of Ohio, Medical Department University of Cincinnati, 1899; a member of the Ohio State Medical Association; local surgeon for the Pennsylvania System, and health officer of Xenia; died suddenly from heart disease at his home, August 1, aged 42.

Edwin Augustus Jelks, M.D. Medical College of the State of South Carolina, Charleston, 1860; a surgeon in the Confederate service throughout the Civil War, and one of the most prominent and beloved practitioners of Quitman, Ga.; died at his home, July 28, aged 72.

John Harvey Borden, M.D. College of Physicians and Surgeons in the City of New York, 1903; of Tarrytown, N. Y.; physician to the City Hospital; died August 10, at his home, from an overdose of morphin and strychnin taken to induce sleep, aged 35.

Alexander Hamilton Laidlaw, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1861; formerly professor of anatomy in the New York Homeopathic Medical College; died at his home in New York City, July 29, from senile debility, aged 80.

David Eugene Southwick, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1857; for more than half a century a practitioner of Ogdensburg, N. Y.; died at his home in that city, August 1, from senile debility, after a long illness, aged 76.

Aaron T. Miller, M.D. Cincinnati College of Medicine and Surgery, 1879; a member of the American Medical Association; of Shanesville, Ohio; died in Colfax, Wash., August 7, from septicemia, following a carbuncle of the neck, aged 53.

Russell H. Croxford, M.D. Medical School of Maine, Medical Department of Bowdoin College, Brunswick, 1892; United States pension examining surgeon; died at his home in Brewer, Maine, August 5, after an illness of several months, aged 50.

William E. Pounders, M.D. Chattanooga Medical College, Medical Department Grant University, 1905; a member of the Arkansas legislature in 1901; died suddenly at his home in Sidney, Ark., July 28, from heart disease, aged 33.

Lewis C. Anderson, M.D. Miami Medical College, Cincinnati, 1874; of Greenville, Ohio; a member of the American Medical Association; was stricken with cerebral hemorrhage while operating in Greenville, and died July 24, aged 58.

John A. Morehouse, M.D. Physio-Medical Institute, Cincinnati, 1870; for 46 years a practitioner of Indiana; died at his home in College Park, Huntington, August 1, from cancer of the stomach, after an illness of six years, aged 64.

William H. Webster, M.D. Pulte Medical College, Cincinnati, 1894; of Dayton, Ohio; died at Weller's Camp, on the Stillwater River, north of Dayton, August 10, from valvular heart disease, after a prolonged illness, aged 39.

Thomas Wylie Long, M.D. Columbus (Ohio) Medical College, 1893; of Byesville, Ohio; died in the Keenan Hospital, Cambridge, Ohio, July 29, after an illness of 17 days, from septicemia, due to an operation wound, aged 46.

Lester C. Gates, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1888; a member of the Missouri State Medical Association; was killed in a runaway accident near his home in Jerico Springs, Mo., August 4, aged 40.

Clyde E. Wideman, M.D. Medical College of the State of South Carolina, Charleston, 1884; formerly of Pelzer, S. C.; died in a sanitarium in Asheville, N. C., April 29, from paralysis, after an illness of more than a year.

James Francis Brown, M.D. Dartmouth Medical School, Hanover, N. H., 1865; a member of the New Hampshire Medical Society; died at his home in Manchester, July 29, from anemia, after an illness of several weeks, aged 69.

Harry R. Bowers, M.D. Medical College of Ohio, Medical Department University of Cincinnati, 1884; of Columbus, Texas; died in Hot Springs, Ark., where he had gone on account of ill health, July 29, after a long illness.

Norris Freeman Kelly, M.D. Missouri Medical College, St. Louis, 1870; a member of the Missouri State Medical Association; died at his home in Kennett, Mo., August 4, after an illness of nearly four months, aged 58.

Orlando T. Pratt, M.D. Missouri Medical College, St. Louis, 1875; of Compton, Cal.; assistant surgeon to the Pacific Electric Railroad; died suddenly from heart disease in Los Angeles, August 5, aged 55.

K. Akin Smith, M.D. Atlanta (Ga.) Medical College, 1891; of Gainesville, Ga.; a member of the Medical Association of Georgia; was drowned while swimming in the Chattahoochee River, August 7, aged 38.

Anna S. Morgan, M.D. Gross Medical College, Denver, Colo., 1895; one of the staff of visiting nurses of Toledo; died at her home in that city, July 30, from heart disease, after an illness of a few days, aged 42.

John Wickliffe Steeves, M.D. Baltimore University School of Medicine, 1892; of Mardela Springs, Md.; was found dead in his room in Washington, D. C., August 2, presumably from heart disease, aged 58.

Ulcf Oscar Robertson, M.D. Hygeio-Therapeutic College of New York, New York City, 1867; of Atlanta, Ga.; died at his country home Roxborough, Ga., August 4, after an illness of six months, aged 62.

T. Brook Thomas, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1888; of Portland, Ore.; died at the home of his brother in Aims, Ore., July 27, after a long illness, aged 50.

Shelby L. Lenox, M.D. American Medical College, Eclectic, St. Louis, 1894; died at his home in Eureka Springs, Ark., August 1, from ptomain poisoning after an illness of two weeks, aged 38.

W. Mumford Ellis, M.D. University of Louisville (Ky.) Medical Department, 1881; died at his home in Riverton, Ala., July 19, from senile debility, after an illness of 23 days, aged 85.

Samuel Eisenbeiss (License, Indiana); for 53 years a practitioner of the state; died at his home in Elkhart, July 20, from carcinoma of the colon, after an illness of four months, aged 74.

Samuel S. Horne, M.D. Medical College of Ohio, Medical Department, University of Cincinnati, 1869; died at his home in Jonesboro, Ind., August 9, after a long illness, aged 65.

Alva Reynolds, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1882; died at his home in Bussey, Iowa, July 30, from heart disease, after a brief illness, aged 48.

Charles N. Cook, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1870; died at his home in Philadelphia, August 1, from heart disease, aged 65.

F. Clarke Mewburn, M.D. College of Physicians and Surgeons of Ontario, Toronto, 1866; one of the oldest practitioners of Toronto; died at his home July 30, aged 91.

B. N. Patterson (Years of Practice, Ky., 1893); for 45 years a practitioner of Ohio County, Ky.; died at his home in McHenry, August 3, from senile debility, aged 80.

William Zimmerman, M.D. University of Würzburg, Germany, 1863; for many years a practitioner of Quincy, Ill.; died at his home in that city July 27, aged 67.

John Haydock Shotwell, M.D. New York Homeopathic Medical College and Hospital, New York City, 1877; died at his home in Belmar, N. J., August 4, aged 80.

Thomas C. McMillan, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1882; died at his home in Falls City, Neb., March 9, after a brief illness.

Lewis Emerson Wheat, M.D. Jefferson Medical College, Philadelphia, 1888; was found dead at his home in Philadelphia, August 12, aged 45.

George E. C. Kelly, M.D. New York University Medical College, New York City, 1892; died at his home in New York City, July 29.

Absalom B. Hostetler, M.D. Eclectic Medical Institute, Cincinnati, 1855; died at his home in Covina, Cal., July 18 aged 82.

Deaths Abroad.

Sir Thomas Stevenson, M.D., R.C.P. University of London, 1864; senior scientific analyst to the home office; an acknowledged authority on medical jurisprudence in Great Britain, and lecturer on that subject in Guy's Hospital Medical School for many years; died at his residence at Streatham, July 27, from diabetic coma, aged 70.

John Talfourd Jones, M.B. University of London, 1863; ex-president of the Medical Society of University College; died at Tunbridge Wells, July 25, aged 71.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

MASSACHUSETTS Board of Registration in Medicine, State House, Boston, Sept. 8-10. Secretary, Dr. Edwin B. Harvey, Boston.
Iowa State Board of Medical Examiners, Capitol Building, Des Moines, September 16-18. Secretary, Dr. Louis A. Thomas, Des Moines.

STATE BOARD REPORTS.

State.	Date of Exam.	Journal Page.	Journal Date.	With Examination Questions.
Arizona	October, 1907	234	January 18	No
	January, 1908	386	February 1	No
	April, 1908	519	August 8	No
Arkansas	October, 1907	61	January 4	No
	January, 1908	1449	May 2	No
	April, 1908	63	July 4	No
California	December, 1907	1059	March 28	No
	April, 1908	153	July 11	No
Colorado	January, 1908	908	March 14	No
	April, 1908	64	July 4	No
Connecticut	March, 1908	1212	April 11	No
Delaware	December, 1907	234	January 18	No
	June, 1908	426	August 1	No
Dist. of Columbia	April, 1907	632	February 22	No
	July, 1907	632	February 22	No
	October, 1907	632	February 22	No
	January, 1908	1143	April 4	No
Florida	November, 1907	234	January 18	No
	April, 1908	242	July 18	No
Georgia	May, 1908	153	July 11	No
Idaho	October, 1907	146	January 11	No
	April, 1908	153	July 11	No
Illinois	January, 1908	988	March 21	No
	April, 1908	242	July 18	No
	May, 1908	519	August 8	No
Indiana	October, 1907	61	January 4	No
Iowa	September, 1907	632	February 22	No
	December, 1907	632	February 22	No
	March, 1908	1839	May 30	No
Kansas	October, 1907	1142	April 4	No
Kentucky	December, 1907	795	March 7	Yes
Louisiana	May, 1908	153	July 11	No
Maine	March, 1907	713	February 29	No
	July, 1907	713	February 29	No
	November, 1907	713	February 29	No
	March, 1908	1212	April 11	No
Maryland	December, 1907	714	February 29	Yes
Massachusetts	November, 1907	146	January 11	No
	March, 1908	64	July 4	No
	May, 1908	154	July 11	No
Minnesota	January, 1908	1071	March 28	Yes
	April, 1908	1840	May 30	No
	June, 1908	427	August 1	No
Missouri	November, 1907	386	February 1	No
	May, 1908	65	July 4	No
Mississippi	May, 1908	520	August 8	No
Montana	October, 1907	234	January 18	No
	April, 1908	64	July 4	No
Nebraska	November, 1907	473	Feruary 8	No
	February, 1908	1072	March 28	No
	May, 1908	426	August 1	No
Nevada	February, 1908	988	March 21	No
	May, 1908	243	July 18	No
New Hampshire	January, 1908	1071	March 28	No
New Mexico	January, 1908	242	July 18	No
	April, 1908	242	July 18	No
North Carolina	June, 1907	794	March 7	No
North Dakota	January, 1908	386	February 1	No
	April, 1908	1840	May 30	Yes
Ohio	December, 1907	713	February 29	No
	June, 1908	519	August 8	No
Oregon	January, 1908	908	March 14	No
Pennsylvania	June, 1907	551	February 15	No
	December, 1907	551	February 15	No
Rhode Island	January, 1908	387	February 1	No
	April, 1908	64	July 4	No
South Dakota	July, 1907	908	March 14	No
	January, 1908	908	March 14	No
Texas	October, 1907	234	January 18	No
Utah	July, 1907	233	January 18	No
	October, 1907	233	January 18	No
	January, 1908	988	March 21	No
Vermont	January, 1908	909	March 14	Yes
Virginia	December, 1907	988	March 21	No
West Virginia	April, 1908	64	July 4	No
Wisconsin	January, 1908	986	March 21	No
Wyoming	February, 1908	989	March 21	No

Indiana May Report.

Dr. W. T. Gott, secretary of the Board of Medical Registration and Examination of Indiana, reports the written examination held at the State House, Indianapolis, May 26-28, 1908. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 125, of whom 119 passed and 6 failed. Fifteen reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
College of P. and S., Chicago	(1905) 86; (1906) 86; (1907) 87; (1908) 79;	89
Illinois Med. Coll.	(1905) 87; (1906) 79; (1908)	90
Hahnemann Med. Coll., Chicago	(1904)	84
Bennett Coll. of Ecl. Med. and Surg.	(1907)	75
Rush Med Coll.	(1895) 89; (1907)	86
Northwestern Univ. Med. School	(1907)	79
Hering Med. Coll.	(1907)	77
Indiana University	(1905) 84; (1906) 76; (1907) 77, 81; (1908) 76, 81, 82, 82, 83, 83, 83, 84, 84, 85, 85, 85, 85, 86, 86, 86, 87, 87, 88, 88, 88, 88, 89, 89, 89, 89, 89, 89, 90, 90, 90, 91, 91, 91, 91, 91, 91, 91, 91, 91, 91, 91, 91, 91, 92, 92, 92, 92, 92, 92, 92, 92, 92, 93, 93, 93, 93, 94, 95, 95, 95, 98, 98.	
Eclectic Med. Coll. of Indiana	(1908) 85, 89, 90	
Physio-Medical Coll. of Indiana	(1908) 88, 88, 89, 90	
Hospital Coll. of Med., Louisville	(1900) 89; (1904) 76; (1907) 82, 87.	
Louisville Med. Coll.	(1891) 75; (1907)	88
Kentucky School of Med.	(1907)	77, 80
University of Louisville	(1902) 76, (1907)	84, 91
Johns Hopkins Med. School	(1905)	91
Detroit Homeopathic Coll.	(1904) 86; (1907)	82
Homeopathic Med. Coll. of Missouri	(1908)	89, 90
University of Missouri	(1907)	92
Dartmouth Med. Coll.	(1894)	89
Medical Coll. of Ohio	(1907)	92
Miami Med. Coll.	(1902)	88
Eclectic Med. Inst., Cincinnati	(1908) 87, 89, 90, 94	
Jefferson Med. Coll.	(1907)	80
Queen's University, Kingston, Ontario	(1904)	85
Imperial University, Kaan, Russia	(1890)	86

FAILED.

Jenner Med Coll. (1907)	67
Medical Coll. of Indiana (1904)	70
Eclectic Med. Coll. of Indiana (1908)	65
Kentucky School of Med. (1907)	72
St. Louis Coll. of P. and S. (1907)	56

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
Hahnemann Med. Coll., Chicago	(1906)	Texas
Rush Med. Coll.	(2, 1906)	Illinois
Northwestern Univ. Med. School	(1906)	Illinois
Kentucky School of Med.	(1907)	Kentucky
University of Louisville	(1881)	Kentucky
Detroit Coll. of Med.	(1900)	Michigan
University of Michigan	(2, 1906)	Michigan
St. Louis Coll. of P. and S.	(1893)	Kentucky
University Med. Coll., New York City		Kansas
Miami Med. Coll.	(1895)	Ohio
University of Pennsylvania	(1904)	Missouri
McGill University, Montreal	(1888)	Michigan
Trinity Med. Coll., Toronto	(1896)	Wisconsin

Missouri June Report.

Dr. J. A. B. Adcock, secretary of the Missouri State Board of Health, reports the written examination held at St. Louis, June 1-3, 1908. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 140, of whom 104 passed and 36 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Total No. Examined.
Howard University, Washington	(1907)	1
National University, Washington	(1895)	1
College of P. and S., Chicago	(1902)	1
Hahnemann Med. Coll., Chicago	(1907)	1
Rush Med. Coll.	(1907)	1
American College of Med. and Surg.	(1906)	1
Kansas Med. Coll.	(1908)	1
University Med. Coll., Kansas City	(1908)	5
University of Missouri	(1906) (9, 1908)	10
Kansas City Hahnemann Med. Coll.	(1908)	1
Homeopathic Med. Coll. of Missouri	(1908)	2
Barnes Med. Coll.	(1904)	1
St. Louis University	(1908)	27
Washington University	(1903) (37, 1908)	38
St. Louis Coll. of P. and S.	(1908)	3
American Med. Coll., St. Louis	(1907) (5, 1908)	6
Hahnemann Med. Coll., Philadelphia	(1908)	1
University of Nashville	(1908)	1
Vanderbilt University	(1908)	1
Meharry Med. Coll.	(1908)	1

FAILED.

Maryland Med. Coll. (1902)	1
Washington University (1908)	4
St. Louis University (1906) (1907) (5, 1908)	7
Ensworth Med. Coll. (1908)	3
Barnes Med. Coll. (1906) (2, 1907)	3
Homeopathic Med. Coll. of Missouri (1908)	2
St. Louis Coll. of P. and S. (1908)	3
Kansas City Hahnemann Med. Coll. (1908)	1
American Med. Coll., St. Louis (1906) (1908)	2
University Med. Coll., Kansas City (1908)	3
Creighton Med. Coll. (1908)	1
Lincoln Med. Coll. (1907)	1
Meharry Med. Coll. (1907) (3, 1908)	4

College and year of graduation for one applicant not obtained.

Wyoming June Report.

Dr. S. B. Miller, secretary of the Wyoming Board of Medical Examiners, reports the written examination held at Cheyenne, June 10-12, 1908. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 5, of whom 3 passed and 2 failed. Eleven reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
University of Minnesota	(1905)	75.4
Creighton Med. Coll.	(1908)	75.2
University of Oregon	(1908)	82.8

FAILED.

Rush Med. Coll. (1883)	62.4
Starling Med. Coll. (1898)	68.4

LICENSED THROUGH RECIPROCITY.

College.	Year grad.	Reciprocity with.
Hahnemann Med. Coll., Chicago	(1893)	Indiana
Bennett Coll. of Ecl. Med. and Surg.	(1897)	N. Dakota
Rush Med. Coll.	(1902)	Illinois
National Med. University, Chicago	(1905)	N. Dakota
Sioux City Coll. of Med.	(1905)	Iowa
University of Iowa	(1905)	Iowa
University of Nebraska	(1907)	Nebraska
Creighton Med. Coll.	(1907)	Iowa
Cleveland Homeo. Med. Coll.	(1876)	Virginia
Ohio Med. University	(1888)	Nebraska

Arizona July Report.

Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, July 6-7, 1908. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 8, all of whom passed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
University of Southern California	(1908)	75
Northwestern Univ. Med. School	(1905)	80.2
Bennett Coll. of Ecl. Med. and Surg.	(1905)	76.2
Tulane University of Louisiana	(1905)	78.2
Barnes Med. Coll.	(1908)	75
University of Missouri	(1908)	75.5
University of Virginia	(1905)	78.6
McGill University, Quebec	(1908)	78.2

North Dakota July Report.

Dr. H. M. Wheeler, secretary of the North Dakota State Medical Examining Board, reports the written examination held at Grand Forks, July 7-9, 1908. The number of subjects examined in was 14; total number of questions asked, 85; percentage required to pass, 75. The total number of candidates examined was 21, of whom 19 passed and 2 failed. Six reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
College of P. & S., Chicago	(1903) 88; (1907) 76; (1908)	77
Rush Med. Coll.	(1907)	78
Dearborn Med. Coll.	(1905)	75
Northwestern Univ. Med. School	(1908)	80
Keokuk Med. Coll., Coll. of P. & S.	(1904) 85; (1908)	76
University of Iowa	(1907)	87
University of Louisville	(1908)	84
University of Minnesota	(1903) 86; (1907)	85, 88
Dartmouth Med. Coll.	(1905)	89
University of Wooster, Cleveland	(1891)	89
Starling-Ohio Med. Coll.	(1908)	86
Jefferson Med. Coll.	(1908)	84
Milwaukee Med. Coll.	(1908)	87
University of Christiania, Norway	(1902)	83

FAILED.

Bennett Coll. of Ecl. Med. and Surg.....(1907)*
Keokuk Med. Coll., Coll. of P. and S.....(1908)*

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
College of P. and S., Chicago...(1906)	Illinois; (1907)	Minnesota
Chicago Coll. of Med. and Surg.....(1907)		Illinois
Detroit Coll. of Med.....(1906)		Michigan
University of Vermont.....(1899)		Vermont
Wisconsin College of P. and S.....(1907)		Wisconsin

*Percentage not given.

PHYSIOLOGY.

Answer any six questions.

1. Describe the process of digestion from beginning to end. 2. How do the products of digestion find their way into venous blood? 3. Define tidal, complemental, reserve and residual air. 4. Describe the mechanism of voice production, naming the principal organs brought into action. 5. Describe the fetal circulation. 6. Distinguish between paralysis of cerebral and spinal origin in (a) reflexes, (b) nutrition of muscles, (c) electric reactions of muscles. 7. Give the origin and function of the anterior and posterior roots of the spinal nerves. 8. Describe the process of reproduction. 9. Define (a) colostrum, (b) emmetropia, (c) ataxism, (d) lochia, (e) osmosis, (f) aphasia, (g) meconium. 10. What are the principal fluids excreted from the body?

HISTOLOGY.

1. Name the different kinds of connective tissue and state where each is found. 2. Give the histology of the lining of the stomach. 3. Describe striated muscle. 4. Give the histology of nerve trunk. 5. Give the histology of the duodenum. 6. Describe minutely a medium sized artery.

CHEMISTRY AND TOXICOLOGY.

1. Define analysis and synthesis as used in chemistry and mention two synthetic organic productions. 2. Give chemical test for pus and mucus in urine. 3. Define acid, base and salt. 4. Your treatment for carbolic acid poisoning. 5. Symptoms of chronic lead poisoning. 6. Treatment of poisoning by bichlorid of mercury.

PRACTICE OF MEDICINE.

1. Give the characteristic differences between diabetes insipidus and diabetes mellitus. 2. Differentiate between cerebral vomiting and gastric vomiting. 3. What are the causes of endocarditis? 4. Give the etiology, symptoms and treatment of cirrhosis of the liver. 5. Give treatment and prognosis of erysipelas. 6. What is prognosis as to the cure of epilepsy? Give the treatment of epilepsy. 7. What are the complications and sequelae of whooping cough? 8. What are the complications and sequelae of scarlet fever? 9. What causes cerebrospinal meningitis and how should it be treated? 10. How should endocarditis be treated?

PREVENTIVE MEDICINE.

1. What two methods can we employ to prevent the occurrence of disease? 2. If you were in charge of troops in the field how would you prevent them from contracting diarrhea and dysentery during the hot months? 3. If the water used was the apparent cause of paroxysmal fevers, how remedy it and from whence your supply? 4. How obviate the danger of infection in communities where smallpox is feared? 5. Assuming that scarlet fever in a patient was contracted in the public schools, how protect the rest of the children? What would you do at the home? 6. Is tuberculosis preventable, and if so how? 7. How prevent the spread of syphilis, if contracted; what strictures would you put on marriage and when only should a person who had gonorrhea marry, and why? 8. Outline a safe water supply system for a community living in a prairie country. 9. Outline a course of treatment to prevent the occurrence of scurvy on land or sea. 10. Typhoid fever, how propagated and your method of prevention?

SURGERY.

1. Describe the different methods of producing local anesthesia. 2. Describe each of the varieties of fracture and give treatment for compound fracture of the leg. 3. Give diagnosis and treatment of hydrocele. 4. What is your treatment for infected wounds? 5. Give etiology and diagnosis of intestinal obstruction. 6. Give diagnosis and treatment of oblique inguinal hernia.

OBSTETRICS.

1. Define the following terms: (a) caput succedaneum, (b) catamenia, (c) galactorrhea, (d) liquor amnii, (e) meconium, (f) sapremia. 2. Give a detailed description of your management of a normal labor. 3. How would you conduct a case of transverse presentation? 4. Give symptoms and treatment of phlegmasia dolens. 5. What are the causes for retained placenta, and how would you treat a case? 6. State the difference between podalic and cephalic version and also the indications for each operation.

EYE AND EAR.

1. Define blepharitis, give causes and treatment. 2. Give diagnosis, cause, treatment and prophylaxis of ophthalmia neonatorum. 3. Enumerate three common errors of refraction and describe their correction. 4. Give causes, symptoms, sequelae and treatment of otitis media. 5. How do you treat impacted cerumen and furuncles of the external auditory canal?

WOMEN AND CHILDREN.

1. How would you treat gonorrhea in the female? 2. What are the indications for curettage of the uterus, and how would you perform it? 3. What symptoms follow displacements and how would you treat them? 4. Give symptoms and diagnosis of cancer of the cervix. 5. Give your treatment for salpingitis. 6. What is the incubation period for scarlet fevor; chicken pox; measles? 7. Give your treatment for scarlet fever. 8. How prepare cow's milk for an infant three months old? 9. How would you treat a case of rickets? 10. Give treatment for diphtheria.

MATERIA MEDICA.

1. What mechanical remedies are employed in the practice of medicine? 2. Define materia medica, therapeutics, pharmacy, pharmacopeia. 3. What circumstances modify the effects of medicine? 4. What medicines are administered in the form of powders, and why? 5. Differentiate between infusions, decoctions and tinctures? 6. What are syrups, watery extracts, alcoholic extracts; strength of a fluid extract compared with a tincture? 7. Give a practical rule for graduating the doses of medicine to different ages. 8. Dose of arsenic or iodids for an adult and what time of day administer them and why; when and why employ hypodermic medicine? 9. What are narcotics and what is their therapeutic efficiency? 10. When is opium contraindicated; give indications for its use; how are dilute mineral acids classed and what is their use; what are the vegetable astringents?

NERVOUS DISEASES.

1. Differentiate between: (a) cerebral hemorrhage, (b) cerebral embolism, (c) cerebral tumor, (d) uremic coma. 2. Give etiology, morbid anatomy, symptoms and treatment of tabes dorsalis. 3. Give common names for the following diseases: (a) paralysis agitans, (b) exophthalmic goiter, (c) chorea, (d) granulosis, (e) posterior spinal sclerosis, (f) tetanus, and give symptoms in full of last named. 4. What is Bell's paralysis? What cranial nerves may be involved? Give symptoms and treatment. 5. Define the following: (a) globus hystericus, (b) megrim, (c) petit mal, (d) ptosis, (e) torticollis, (f) paranoia. 6. Name some of the causes of insomnia and how would you treat it?

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

A Recognized Authority on Medical Quacks.

Champe S. Andrews, for eight years counsel for the New York County Medical Society, under whose legal management the prosecution of quacks in New York was conducted for some time, is delivering an instructive lecture on "Medical Quacks, Their Methods and Dangers," in which he reviews the history of quackery from ancient times down to the present, especially of the last ten years, in which so much has been done to expose and punish frauds, deception and corruption of all sorts. Mr. Andrews' lecture is particularly valuable on account of the fact that it is the result of eight years' experience in hand-to-hand conflict with various quacks. The dangers of quackery, as well as the shamelessness and skill in crime of the charlatan, are shown from actual records of cases which he has prosecuted in New York and Kings County.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

SUGGESTIONS FOR THE USE OF THE POSTGRADUATE COURSE OF STUDY.

1. Attention is called to the rearrangement of the outline for this year. There are only ten months, instead of twelve, as last year. Each month's outline consists of only four weekly meetings, the fifth weekly meeting in any month to be used for public meetings or a joint meeting with some related society.

The skeleton program which preceded the elaborated weekly outlines for each month has been omitted this year, the leaders and spacing showing the topic for each teacher, who will find the elaboration immediately following the topic. The program for the monthly meeting is added for those societies meeting monthly. A list of suggested reference books is added to each month's outline.

2. *Essentials to a Successful Meeting:* Meet promptly. Arrange that only those who are prepared shall lead in any subject. Allow 45 minutes to teacher, if only one; 25 minutes each, if two; 15 minutes each, if three. Allow five minutes to each member to discuss the subject or to ask questions. Each teacher should quiz on his topic of the preceding meeting as a review and to stimulate a general study of the subject.

3. *Anatomy:* Discuss those structures that will undergo morbid changes as a result of the particular disease under consideration, exhibiting gross and microscopic specimens when possible. Demonstrate fresh specimens from the lower animals, if those from the human are not obtainable.

4. *Physiology:* Study the functions of those organs which undergo changes.

5. *Pathology:* Study the pathologic anatomy and physiology, and their relations to the symptoms presented.

6. *Bacteriology:* Study the morphology and biology of bacteria, and the methods of recognizing and differentiating them.

7. Present clinical cases or brief reports, bearing on the subject, whenever possible.

8. *Treatment:* Study materia medica, pharmacology and therapeutics, exhibiting crude drugs and their U. S. P. and N. F. preparations. Encourage members or classes to carry out experiments on animals in regard to the effects of drugs. Emphasize the work of the Council on Pharmacy and Chemistry. Prescription writing, with blackboard demonstrations, should be made a prominent feature of the course whenever practicable.

9. *Reporter:* It is insisted that there should be a reporter for every society, whose duty it shall be to present a digest or review of the recent literature of the subject of study for that month.

10. Adjourn promptly one and a half hours after the time for the meeting to be called to order.

First Month.

FIRST WEEKLY MEETING.

Diseases of the Heart:

ANATOMY OF THE HEART.

Exhibit gross and microscopic specimens.

Pericardium. Shape, layers, relations. Structure, fibrous and serous layers.

Heart. Size and weight. Right and left heart, auricles, ventricles, grooves. Right auricle: atrium, appendix auriculæ; openings, superior cava, inferior cava, coronary sinus, foramina Thebesii. auriculo-ventricular; valves, Eustachian, coronary. Right ventricle: size and shape; openings, auriculo-ventricular, pulmonary artery; valves, tricuspid, semilunar; chordæ tendineæ, columnæ carneæ. Left auricle: size, walls; openings, pulmonary veins, auriculo-ventricular; musculi pectinati. Left ventricle: shape, size, walls; openings, auriculo-ventricular, aortic; valves, mitral, semilunar; chordæ tendineæ, columnæ carneæ.

PHYSIOLOGY OF THE HEART.

The Heart Beat.—Musculature of heart: arrangement of fibers, auriculo-ventricular bundle. Auricular and ventricular diastole and systole. Contraction wave in the heart: origin, course, dependence on musculature, velocity. Change in form of (a) auricle, (b) ventricle during systole. Apex beat: position, causes. Heart sounds: location, duration, pitch, of each; causes of each. Cardiac cycle; events occurring during cycle, action of valves, papillary muscles. Causes of heart beat: (1) neurogenic theory, (2) myogenic theory, factors in favor of each; automaticity of heart, effect of inorganic salts in blood and lymph. Properties of heart muscle; rhythmicity, excitability, contractility, conductivity, tonicity; "maximal contraction," "refractory phase." Cardiac nerves. (1) Inhibitory nerves: vagus, origin, course, kinds of fibers, distribution, effect of stimulation on rate, on force, of heart beat; effect on auricle, on ventricle; heart block; "inner stimulus"; effect on heart metabolism. Reflex inhibition, cardio-inhibitory center, reflex arc, effect on heart "tone." (2) Accelerator nerves: origin, course, distribution, effect of stimulation on rate, on force, of beat. Reflex acceleration, accelerator center.

REFERENCE BOOKS FOR FIRST MONTH.

Babcock: Diseases of the Heart and Arterial System.
Broadbent: Heart Disease.
Nothnagel's Practice: Diseases of the Heart.
Osler: Practice of Medicine.
Tyson: Practice of Medicine.
Anders: Practice of Medicine.
Hare: Practice of Medicine.

Society Proceedings

COMING MEETINGS.

American Public Health Association, Winnipeg, Can., Aug. 25-28.
American Acad. of Ophthal. and Oto-Laryng., Cleveland, Aug. 27-29.
Wyoming State Medical Society, Sheridan, Aug. 28.
New Mexico Medical Society, Albuquerque, Sept. 2-3.
South Dakota State Medical Assn., Yankton, Sept. 2-4.
Washington State Medical Association, Walla Walla, Sept. 2-4.
Medical Society of the Missouri Valley, Council Bluffs, Sept. 3-4.
Colorado State Medical Society, Denver, Sept. 8-10.
Med. Soc. of the State of Pennsylvania, Cambridge Spgs., Sept. 14-17.
American Assn. of Obstet. and Gynecol., Baltimore, Sept. 22-24.
Kentucky State Medical Association, Winchester, Sept. 23-25.
American Dermatological Association, Annapolis, Sept. 24-26.
Con. of State and Prov. Bds. of N. A., Washington, Sept. 25-26.
Internat'l Congress on Tuberculosis, Washington, Sept. 21 to Oct. 12.

MICHIGAN STATE MEDICAL SOCIETY.

Forty-third Annual Meeting, held in Manistee, June 24-25, 1908.

Election of Officers.

Officers were elected as follows: President, A. I. Lawbaugh, Calumet; first vice-president, J. W. Bosman, Kalamazoo; second vice-president, J. A. Christenson, Manistee; third vice-president, Sarah Chase, Traverse City; fourth vice-president, J. D. Bruce, Saginaw; state secretary, B. R. Schenck, Detroit; treasurer, George W. Moran, Detroit. Delegates to the American Medical Association: A. M. Hume, Owosso; T. A. Felch, Ishpeming; F. W. Robbins, Detroit; S. C. Graves, Grand Rapids. Alternate delegates: A. W. Crane, Kalamazoo; H. E. Randall, Lapeer.

The next meeting of the Society will be held in Kalamazoo in September, 1909.

Problems in Preventive Medicine.

DR. HERMAN OSTRANDER, Kalamazoo, in his presidential address, laid stress on the growing attention of the profession to matters of public health and the increasing tendency to interest the laity in this direction. The education of the people was most needed, and the physician must be responsible for whatever progress was made. The strong movement against tuberculosis, the occasional attacks on unsanitary sections of large cities, the purification of water supplies, the laws providing for meat and milk inspection, child labor, etc., were all problems closely involving the medical profession, but they aroused action only sporadically, instead of leading to some comprehensive scheme of attack. The country needed a healthier race of human beings and the need could be fulfilled by attention to details of hygiene which would promote good physical and mental attributes. There was a large "degenerative" class in the United States, comprising 14 per cent. of the population; this included the insane, feebleminded, epileptics, criminals and tuberculous. Add to these the neurotic, semiinsane and the semiresponsible, and the percentage appeared formidable. All members of this class were unfit to have progeny, because they transmitted tendencies to deviation and disease. The influence of heredity, great as it was, should not, however, be exaggerated, and the gloomy outlook taken by some was unjustifiable. The repetition, for instance, of neurotic traits, of epilepsy, of tuberculosis, in the offspring was more often due to environment, to imitation, injury or infection than to direct transmission. The attempt to reduce the transmission of constitutional weakness by emasculation or the interdicting of marriage was irrational, because the conditions still existed for creating new members of the unfit class. Preventable causes of weak progeny were as follows: Physical and emotional disturbances of the mother during gestation; prolonged or difficult labor and the unskilful use of forceps; improper diet, bad air, undue nervous stimulation; inconsistent precept and noxious example; encouragement of precociousness; failure to exercise restraint and to develop a sense of responsibility. These factors were insufficiently realized, and yet were preventable. Agitation to enlighten the public medically was commendable. Knowledge was more necessary than legislation,

and the latter was useless unless the public was aware of its necessity. The functions of health boards must be increased, as well as their cash appropriations. Endowments to study and prevent disease were needed. All the movements in this work, sporadic and disconnected at present, should be correlated and brought under one comprehensive scheme, with consistent purpose and organized administration.

Lymphatic Leukemia.

DR. WILFRID HAUGHEY, Battle Creek, said that lymphatic leukemia was rarer than the splenomedullary form, being reported in Heidelberg and Stockholm hospitals from 8 to 9 times among 10,000 patients. In Barcelona but one instance was found among 59,940 patients. Males were more commonly affected than females. The disease had been found in horses, oxen, dogs, cats, hogs and mice. The etiology was unknown. Malaria and syphilis had been mentioned as probable factors. Lowit described an *Hæmatamœbum leukæmia parva intranuclearis* as the cause, but this was not accepted. The first symptoms of chronic lymphatic leukemia were usually bleeding from the nose and throat, followed soon by gastrointestinal disturbances. The bleeding soon ceased, and the cervical axillary, inguinal and mesenteric glands became enlarged, soft, distinct and movable. They varied in size at different times, becoming smaller and harder as the disease progressed. The spleen was sometimes enlarged and the liver usually so. Lymphatic leukemia must be differentiated from Hodgkin's disease. The glands in Hodgkin's disease were harder and larger, and the blood had none of the characteristic changes of leukemia. The number of white and red blood cells showed great variation, but the whites were never so abundant as in splenomedullary leukemia. The lymphocytes were greatly increased in relative proportion, while the other leucocytes were decreased. Eosinophiles and normoblasts were rare. The diagnosis must rest on repeated blood findings. Haughey then reported a case at length, giving a long series of red and differential leucocyte counts, and showing a marked reduction in the number of leucocytes under Fowler's solution, from 68,000 at first to under 20,000. The percentage of lymphocytes had increased and varied between 80 and 90 per cent.

Treatment of Exophthalmic Goiter.

DR. JEANNE C. SOLIS, Ann Arbor, stated that there were three principal theories as to the etiology: (1) Toxic, the toxins being derived from disturbances of the digestive tract; (2) thyroid, the symptoms being due to hypersecretion of the thyroid gland; (3) neurotic, there being a disturbance in the relations between the sympathetic nervous system, the pituitary gland and the thyroid. There was a certain amount of pathologic, experimental, clinical and therapeutic evidence to support each of these theories. From the pathologic findings we were inclined to direct most attention to the thyroid, an increased vascularity being practically always found. A review of the literature showed that in all the successful methods of treatment the decisive factor was the restriction of the vascularity of the thyroid. The pros and cons of operation were discussed. The author advocated the use of electricity, emphasizing the benefit derived from the direct current. This contracted the walls of the blood vessels, thus reducing the amount of blood which flowed through the thyroid, as well as having a nutritive effect on the glandular tissues. Dr. Solis applied electricity in the following manner: The cathode is placed on the back of the neck, while the anode is applied to the gland and to the vessels of the neck. The current is gradually increased from 15 to 25 milliampères. The anode is held in one spot from three to four minutes and then moved. Treatments are fifteen minutes in length and given daily at first; later every other day or three times a week as long as the rapid pulse, enlarged gland and exophthalmos continue. The pulse is usually decreased from 15 to 20 beats, which diminution lasts for an hour or more. Three illustrative cases were cited.

Diagnosis of Esophageal Obstruction.

DR. GEORGE DOCK, Ann Arbor, said that obstruction of the esophagus occurred oftener than was generally believed. Due attention to points of diagnosis would reveal the condition oftener and earlier and save more lives than in the past. The condition was most commonly mistaken for phthisis, cancer of the stomach and gastric catarrh. Careful history-taking was important; there was nearly always a definite complaint of difficulty in swallowing; later regurgitation usually ensued, though sometimes it was the first symptom; regurgitation was frequently described as vomiting and one should question carefully in this regard; it occurred usually ten or fifteen minutes after eating, and in advanced cases mucus might be present in large amounts. The occurrence of either dysphagia or regurgitation should suggest, first, an examination to determine whether the trouble was caused by a tumor of the neck, lordosis, mediastinal tumor, aneurism, pericardial effusion, congenital, traumatic, or caustic stricture, or a neurosis; second, an instrumental examination. In the latter procedure the flexible stomach tube was the first instrument to be used, but always with caution, especially if aneurism be suspected. If obstruction be met, its distance from the teeth was measured by the tube; gentle efforts should be made to reach the stomach; if this be impossible, aspiration should be done to obtain any material that might collect above the obstruction, for chemical and microscopic analysis. If the tube revealed nothing or insufficient information, bougies were employed, the largest first. One should attempt to determine the caliber of the lumen and the length of the obstruction, as well as the existence of spasm, which frequently added to the constriction of organic lesions. The nature of the obstruction, if not already plain, should be sought in careful details of history; hysterical stigmata or history of shock, trauma, etc., accompanied esophagismus; cachexia and emaciation accompanied cancer; sex and age were factors. The esophagoscope was an excellent aid to diagnosis and ought to be used whenever possible. The existence of dilatations and diverticula was always a possibility to be considered.

(To be continued.)

MEDICAL SOCIETY OF NEW JERSEY.

One Hundred and Forty-second Annual Meeting, held at Cape May, June 18-19, 1908.

(Continued from page 620.)

Prevention and Treatment of Tetanus.

DR. J. HARRIS UNDERWOOD, Woodbury, considered the most reliable germicide in these cases to be a solution of bichlorid of mercury. Pure carbolic acid should not be used, because it sealed up the bacilli by coagulating the albumin of the tissues. Patients with superficial wounds should at once receive an injection of 10 c.c. of antitetanic serum. The treatment after the development of the disease was directed to controlling spasm, overcoming the toxins, and supporting the patient's strength until the symptoms subsided. For the first, chloral and bromids were valuable; for the second, the serum. Two cases of cure in patients with very severe attacks were reported. In the Cooper Hospital, Camden, the mortality had been from 80 to 90 per cent. before the use of antitetanic serum; and 40 per cent. since.

DISCUSSION.

DR. GEORGE E. READING, Woodbury, said that the value of the serum treatment for tetanus was best shown by the statistics of the St. Louis Hospital, where, prior to 1907, injections were not used until the symptoms of the disease had developed. In that year they began to inject 10 c.c. of antitetanic serum in every suspicious case. Formerly there had been many cases followed by death after every Fourth of July; but this year no cases of tetanus developed. Even negative evidence as comprehensive as this, said Dr. Reading, acquired a great deal of weight. He thought it would be well for all hospitals to adopt the plan of giving a preventive injection to each patient whose case may be open to suspicion. In cases in which serum treatment was not available, Dr. Reading had seen good results from carbolic acid treatment. The statistics from its use

abroad were good; and he thought that if it were more generally tried here they might be good in this country. He had seen a number of suspicious cases treated by thoroughly washing out the wound with peroxid of hydrogen, and none were followed by tetanus.

DR. J. H. BRADSHAW, Orange, considered it unfortunate that in the treatment of tetanus after the symptoms have developed, the remedies given are almost as dangerous as the disease. The huge doses of morphin, chloral, and other drugs administered would often kill a person in good health.

DR. JAMES S. WRIGHTSON, Newark, said that the use of the serum certainly does cure some patients. In one patient treated at the City Hospital of Newark, he had no doubt that the outcome without this treatment would have been fatal. The cost of the serum used in this one case was $375.

Acute Intestinal Obstruction.

DR. ROBERT M. CURTS, Paterson, confined himself to a few interesting points: The importance of early recognition of the condition and of surgical treatment within thirty-six hours; the relative frequency of the condition, there being one death from it in every 300 to 500 deaths from all causes; the helpfulness of having a good mental picture of the intestines; the mortality in the various forms of acute obstruction; the ages of the patients in the various kinds; and where the knowledge of the physician ends and that of the surgeon begins. The prognosis was always grave, the only hope being in surgical treatment. Researches had given little clinical aid to the diagnosis. Acute intussusception was the form most readily diagnosed, being the only one in which the pathologic and anatomic relations could be made out with any degree of certainty. The treatment was immediate abdominal section. It was impossible to make a diagnosis of any particular type before operation, and quite unnecessary. Attempts to do so only delay what should be an early procedure. The two most important symptoms were severe abdominal pain and inability to pass flatus. The first was common in other visceral diseases, but the second was true only of acute intestinal obstruction.

DISCUSSION.

DR. J. W. HARVEY, Orange, said that no condition required more accurate and certain diagnosis or more generous early surgery than acute intestinal obstruction. The diagnosis was made much less frequently to-day than twenty years ago, and operations for its relief were less common now than formerly. Many cases of abdominal diseases that were formerly allowed to go on to obstruction were now cured before that symptom appears, and the proper treatment of others relieved the obstruction. On the other hand, a new fruitful cause of obstruction was presented by the effects of laparotomy. Dr. Harvey agreed with Dr. Curts that operation, to be successful, must be done in the first twenty-four hours; and he did not see the advantage of first attempting any other method of forcible reduction. The most important point to decide was whether one shall do a complete or an incomplete operation. Another point was what shall be done to insure the return of normal peristalsis; and just how much evacuation of the bowel would be required to relieve the obstruction.

DR. JAMES S. BROWN, Montclair, said that a phase of the treatment of intestinal obstruction was that of distension. A Moynihan tube was placed in the intestines, which were then strung on it. By this means, instead of there being a mass of distended loops of intestine, the bowel was flat. The abdomen could then be entered with comparative ease to seek for the cause of the obstruction.

Remote Pain Following Abdominal Operations.

DR. WILLIAM E. DARNALL, Atlantic City, confined his attention to the pain that persisted after the patient had left the hospital and come under the care of the attending physician, who was worried because the operation had not relieved the patient as he had hoped. This pain usually disappeared gradually, but sometimes persisted indefinitely. When a second operation becomes necessary, observation would show that the condition was due to adhesions. In trying to remove pathologic structures, the surgeon sometimes forgot that it was important to consider the future welfare of the patient and to try to prevent the occurrence of these symptoms following the operation. The bowels should be handled as little and as gently as possible, and should be protected with compresses moistened with hot salt solution. Every effort should be made to eliminate the possibility of the formation of postoperative adhesions. Every clot left might become an organized adhesion or the focus of infection. Abdominal surgery should not be attempted unless the muscles were relaxed and pliable. The incision should be made so long that it would not need to be stretched with retractors. Any raw surface in the abdomen left exposed should be carefully covered. Patients measured the gravity of their condition by the amount of pain they suffered; and if the adhesions produce more pain than did the original condition, they felt that the operation had done no good.

DISCUSSION.

DR. E. STITES, Bridgeton, said that in estimating the intensity of pain or its diagnostic value, one must remember that reaction to it varied almost indefinitely in different individuals. It seemed to him that one should consider whether the pain was a continuation of a previously existing one or an entirely new symptom developed postoperatively. He thought that its character should likewise be considered, and its location, together with the presence or absence of fever. Severe pain of any other than the neurotic form seldom presented itself as a sole symptom; and it seemed to him that when other symptoms of the presence of adhesions were absent, operation for the relief of postoperative pain should not be undertaken. The stimulus of an operation added to the already unstable nervous centers could not help but awaken many reflexes.

DR. W. E. DARNALL said that all must appreciate the fact that pain was too big a subject to make a single reference to it; for it would take too long to consider even a single group of its causes. The subject took in the whole field of medicine and surgery. Neurotic pain was a very wide field, particularly that associated with hysteria and that in morphin habitues.

DR. E. J. ILL, Newark, said that his experience had been that such operations never produce pain unless they displaced an organ so as to impair its mobility.

Acute Anterior Poliomyelitis.

DR. DAVID T. BOWDEN, Paterson, considering the etiology, the symptoms, the different stages, the diagnosis, prognosis and treatment. In conclusion he emphasized the fact that no operation should be performed, except possibly a tenotomy, until some years after the primary infection, when all possible chance of recovery had passed. No operation should be attempted without a thorough electrical test having been made and a possible destruction of the muscle demonstrated.

DISCUSSION.

DR. F. D. GRAY, Jersey City, speaking for Dr. H. J. Bogardus, gave statistics of 872 cases of infantile paralysis treated at the clinic of the New York Orthopedic Hospital in the period from Jan. 1, 1897, to Dec. 31, 1906. He stated that it had been estimated that half the crippled children wearing braces were doing so as the result of this disease. It had been hoped, he said, that by a study of an epidemic of the disease occurring in a crowded American city, much might be learned concerning it; but, unfortunately, little had been added to the sum total of the previously existing knowledge regarding infantile paralysis.

DR. D. E. ENGLISH, Wilburn, said that for some time he had suspected anterior poliomyelitis to be an infectious disease, although this had not yet been proved to be the case. The few instances of the disease that he had seen had borne out the hypothesis of Dr. Bowden that it had some connection with acute or chronic digestive troubles. Dr. English's patients had been very much constipated. In one case there was fecal impaction, and he extracted from the intestine a quantity of chestnut shells, peanut shells, and pieces of coal. He thought that it would be interesting to know whether or not this depraved appetite had any connection with the disease. In all the few cases in babies that he had seen the infants had been fed with beer; and he thought that the effect of the alcohol

on the infantile or childish system might have some bearing on the case.

DR. THOMAS P. PROUT, Summit, said that the results of nerve grafting do not carry out the expectations that were formed regarding it in the first place; and he thought that probaby the best that could be reported about it was simply an improvement in the general nutrition of the limb, which, of course, was worth something. Associated with this improvement there was often for a long period an added palsy, on account of the engrafting of dead nerve tissue into living structure. He thought it wrong to torture these children with electricity. In the early stages, he said, the cases partake largely of the nature of a neuritis; and to stimulate the surface of the body with electrical currents during the course of a neurotic process had a torturing effect. Electrical treatment, therefore, should not be employed until four weeks have elapsed. He thought that it would be found that these cases belong to the great number of latent infectious processes that become active only through lowered vitality and resistance on the part of the child, due to various causes.

DR. MARTIN J. SYNNOTT, Montclair, referred briefly to one case that seemed to him to have some bearing on the etiology of the disease. The symptoms in this case pointed strongly to typhoid infection. A blood examination disclosed an enormous number of malarial parasites of the estivoautumnal variety. The paralysis developed on the third day of the fever, and the subsequent course clearly pointed to poliomyelitis. Dr. Synnott wondered whether or not the malarial parasites could have had any bearing on the poliomyelitis. His experience had been that these cases improve as rapidly under the stimulation of vibratory massage as under either galvanism or faradism, and with less discomfort to the patient.

DR. W. M. LESZYNSKY, New York, said that anterior poliomyelitis seemed to him a bad name for the cases that occurred during the recent epidemic, because a large number did not correspond to the usual type of this disease. A number showed the characteristics of an encephalitis or a myelitis and, to a slight extent, of a neuritis. He agreed with Dr. Prout in regard to the treatment. He did not think it necessary to examine thoroughly by means of galvanism in order to determine the presence of the reaction of degeneration. He scarcely considered it wise to wait until deformity had developed before instituting the orthopedic plan of treatment. One should accept the fact that a child with paralysis of the foot was likely to have foot-drop, and should immediately place the foot in an apparatus to prevent the stretching of the anterior group of muscles.

DR. J. C. EDWARDS, Williamstown, said that, when used at all, electricity should be applied in its mildest form. If the muscle should refuse to respond after half a minute, the current should be stopped, as the already weakened muscle had been tired out. A few months ago he had a patient who would eat peanut shells, chalk and coal, and relish them, but he had a good deal of gastric trouble.

DR. D. T. BOWDEN said that he had thought that he had indicated in his paper that electricity should not be used until tenderness has subsided. An amount sufficient to produce contraction should be applied. The idea of the therapeutic effect of electricity was merely massage of the muscles. This was why the orthopedic treatment had been recognized as of more importance than the electrical or neurologic; it placed the child in a position to use any voluntary power that it might have. In the chronic stage, as soon as the child was able to carry a supporting apparatus, it should be put on. Dr. Bowden thought that no one could reasonably question the benefit of electricity.

Modern Methods of Treatment of Posterior Displacements of the Uterus.

DR. J. WATSON MARTINDALE, Camden, pointed out the advantages and disadvantages of each operation and the conditions under which the various operations were indicated. The objects of operations for posterior displacement of the uterus were repair of the pelvic floor and the bringing forward of the uterus into a position of anteversion.

DISCUSSION.

DR. A. F. STAEHLIN, Paterson, said that in complete procidentia in a woman beyond the menopause he would recommend vaginal hysterectomy, rather than the procedure recommended by Dr. Martindale. Dr. Staehlin considered chlorosis an important factor in the production of retroflexion. He believed the Gilliam operation gave the best satisfaction as a method of restoration, and always employed it. He did not think so much of the Alexander operation as of any of the others mentioned, and wished to know whether in performing it Dr. Martindale cuts off the round ligament after it is fastened.

DR. MARTINDALE said that he cuts off the redundant portion.

DR. STAEHLIN suggested that it be left, giving as his reason that if, after it has been removed, anything should happen to the ligature, more trouble would be caused than was present in the natural state before operation. He then referred to the difficulty of finding an adequate means of restoring the pelvic floor. From the fact that there are so many methods of restoring the perineum, he thought it might be inferred that few of these were adequate. A superficial tear down the median line might be easily overcome; but when the tear was lateral and very extensive, there was a tendency to procidentia. In order to have a successful result, the perineum should be restored in an anatomic way. He considered preliminary amputation of the cervix a good point, and thought that the sound had proved to be a pernicious instrument. If a perforation be present, he believed in awaiting developments; as he felt convinced that in many cases of rupture of the uterus followed by small perforation the wounds have healed spontaneously.

DR. E. J. ILL, Newark, said that he did not believe that the anatomy of the condition is thoroughly understood. In his experience, retroposition of the uterus had produced a large number of pelvic symptoms with a pathologic interest. He considered the Alexander operation ideal, so far as anatomic condition goes, but thought the Gilliam the most practical. By his own modification of this procedure, Dr. Ill and his assistants had operated on about 500 of these patients, with less than 1.5 per cent. of failures, and he thought that no other operation could show so small a percentage. Gilliam had told Dr. Ill that he was about to give up the operation that goes by his name, on account of the large number of suppurative cases that he had had. Dr. Ill's modification overcomes this tendency, and he thought that its only possible danger was that the ligament might not be pulled out far enough. If it is pulled out so far as to prevent the tube from coming near the opening of the peritoneum and forming an adhesion there will be no subsequent pain. Dr. Ill has seen a great many labors following his operation. He said that he had seen more damage done by ventral fixation than could be made good in a hundred years.

DR. GRAY said that he had wondered at not having heard some mention of the Webster operation, which had appealed to him as being satisfactory, simple and effective. He made a plea for more sections in cases of posterior displacement.

DR. J. M. RECTOR, Jersey City, said that Dr. Martindale did not seem to consider the fact that other things cause displacement besides gravity, such as chronic metritis and salpingitis, with adhesions. In order to relieve these conditions, something else than the procedure described by Dr. Martindale was necessary. All the operations mentioned were successful when applied to the proper conditions. The operation must be suited to the case. Dr. Rector also remarked that Dr. Martindale had not stated that one must take into consideration the outlying conditions that have brought about the changes giving rise to the retroverted uterus, and said that if we were to advise looking into these conditions and treating them before operation the results would be better.

DR. CHAVANNE remarked that it is the duty of the surgeon to make sure that his diagnosis is correct before inducing a patient to submit to operation. He thought that many physicians have not sufficient sympathy with patients suffering from hysteria. He was satisfied that displacement of the uterus is often caused by the prudery of American women.

Any medical man who does not take into consideration the history of the patient, her susceptibility, her emotions, and her occupation, before making a diagnosis, is committing an error.

DR. HARVEY said that he had not heard the part of the paper in which Dr. Martindale had mentioned the beneficial effect of pregnancy on retrodisplacements. He thought that the general practitioner would bear him out in the statement that pregnancy has often cured retrodisplacements that have existed for some time.

DR. E. J. ILL, Newark, stated that Munde had published statistics in relation to this point, showing that only 3 per cent. of such patients recover after pregnancy.

DR. MARVEL said that in every retrodisplaced uterus there is a prolapse, and the fundus is lower than it should be. An operation that will elevate the fundus of the uterus should be done. He admitted having had one accident whose cause Dr. Ill had cleared up for him, that of getting necrosis in fastening the round ligament in the Alexander operation. The stump of the ligament was, however, fastened sufficiently to the fascia of the rectum to hold the uterus in position. In ventral suspension this difficulty is corrected, and the danger of its occurrence is much reduced in Dr. Ill's modification of the Gilliam operation. If adhesions were formed between the anterior surface of the abdomen and the fundus of the uterus, these adhesions could, Dr. Marvel thought, be limited. All things being equal, he considered Dr. Ill's modification preferable to the original Gilliam operation. The fact that it elevated the uterus from its displacement made it the one in which there was the least likelihood of hernia or necrosis.

DR. DRAKE, Tennessee, said that imaginary diseases were real, material entities with a pathologic basis, and the trouble could often be removed by diverting the patient's attention from the conditions that give rise to the material images in the brain. The reason for the existence of so many operations for procidentia and for appendicitis in modern times and so few in old times was that attention was now called to these particular organs. If the attention of patients could be turned away from the internal organs, Dr. Drake thought there would be fewer pathologic conditions.

DR. JOHN P. REILLY, Elizabeth, said that the discussion ought not to be closed without further consideration of the shortening of one or both uterosacral ligaments, and that he would be glad to hear more from Dr. Ill on this subject, because unmarried patients had persistent dysmenorrhea, and married patients dysmenorrhea with sterility. All the suspensions done to relieve ordinary displacements would not cure this class of cases. All the ligaments on the front may be shortened and the floor repaired, but the patient would not be cured. Dr. Reilly thought it strange that silk had continued to be used so long in suspensions, as catgut would give rise to much less suppuration and afford all the fixation necessary. It had occurred to him that in the method spoken of by Dr. Ill the posterior parietal peritoneum was lifted from the fascia below more than was necessary, and that this might do harm. He wished to know whether the posterior parietal peritoneum was stripped from the round ligament as it was brought through. He had stripped the peritoneum back so that he had the clear round ligament. By so doing he thought that the pushing upward of the peritoneum could be avoided.

DR. E. J. ILL, Newark, said that removal of the ovaries was the operation most commonly performed for a short uterosacral ligament. In the physical examination the finger was passed into Douglas' cul-de-sac until it strikes the tense cord, which was slightly pressed on and found to be sensitive. In the pelvic cavity there should be no organ sensitive to slight pressure. When the patient was put under ether, a finger was introduced into the vagina behind the uterus. The uterosacral ligament was caught on the end of the finger and gradually brought outside. By massage the ligament was lengthened, so that it was no longer tense and sensitive. As an additional safeguard against contracting it was kept on the stretch for a few days by thoroughly dilating the uterus. Dr. Ill always suggested that for two months following the operation the patients should use douches while on the knees and elbows, so as to keep up a little stretching of the ligament. Sometimes a second operation was necessary, and once a third one. Two symptoms that should lead to a guarded prognosis were sensitive spines and coccygeal pain. The pain on either side of the back and inability to walk were overcome by the treatment.

DR. RICHARD C. NORRIS, Philadelphia, said that sufficient stress had not been laid on preliminary treatment of the supports of the uterus and of the uterus itself. He stated that years ago Emmett cured many displacements by careful plastic surgery followed by the use of the pessary. Dr. Norris was inclined to think that these operations to correct displacement had but temporary effect. In regard to the selection of the operation for this purpose, he agreed that the round ligament was the essential factor to be used, and that the portion of it that was the thickest and the nearest to the uterus was best fitted to accomplish the work. At the Preston Retreat, in Philadelphia, there have been 3,500 confinement cases during the last fifty years, and Dr. Norris had found that in patients in whom ventral fixation had been used complications frequently occurred. This had led him to believe that the operation ought to be abandoned. Even the technic that prepares for suspension, he said, might eventuate as fixation. It was his opinion that an operation for holding the uterus in position by means of the round ligaments would be devised that would not fasten the uterus to the abdominal wall. He had had no difficulty in regard to sloughing or hernia in either the Gilliam or the Simpson operation. He had used the procedure suggested by Dr. Ill, which had appealed to him surgically and clinically as the most satisfactory. He was surprised that the Alexander operation was not appreciated, as he believed that there exists a class of uterine displacements in unmarried women in whom this operation found a wide field of usefulness. When performed with careful technic, there was no danger of sloughing or of infection.

DR. J. W. MARTINDALE said that if vaginal hysterectomy were done in cases of procidentia the condition would not be cured. It was absolutely necessary to do the plastic work before attempting any of these operations. He said that he would feel a little hesitation about employing the method of treating the tender and shortened uterosacral ligament advocated by Dr. Ill unless it were done by a skilled operator, as some other structure might be mistaken for the ligament and damage produced by the massage. Dr. Martindale thought that the proper treatment for a case of chronic metritis or salpingitis with adhesions would be supravaginal hysterectomy, which was a safer procedure than double oöphorectomy with an oöphorosalpingectomy. He had seen cases of inflammation of the broad ligaments and the ovaries in which, when the finger was pushed into the body of the uterus, the whole structure was found to be broken down. Dr. Martindale had seen the good effect of pregnancy on backward displacement of the uterus exemplified. One of the disadvantages of ventral suspension, he said, consisted in the use of silk sutures. In the clinic he employed catgut exclusively. He believed that danger from premature absorption of catgut was less than that from the presence of a foreign body, such as silk in the abdominal cavity. He thought that the reason women formerly did not appear to have procidentia was that they did not then consult physicians for this trouble, and that if they had they would not have obtained relief. He took exception to the attitude of both speakers in regard to ventral fixation, which he believed to be the operation par excellence in women beyond the climacteric, although he considered it criminal to do this operation on a woman during the childbearing period. The suspension that takes in one or two strands of the muscle he thought more effective than the ordinary suspension in which merely the peritoneum was used. In a patient with large uterus and with lax vaginal and abdominal walls, better support was afforded by ventral fixation than by any of the other operations mentioned. The sixth operation described by him was not the Simpson operation, but a modification devised by Dr. Charles P. Noble, of Philadelphia, and was quite similar to the operation described by Dr. Ill. If the ligament were taken up and drawn through

the abdominal cavity, the inlet to the pelvis would be divided into three distinct artificial compartments. Dr. Martindale said that this was not anatomic and was likely to produce strangulation of the bowel.

Other Papers.

The following papers were also read: "Diagnostic Importance of Vomiting in Children," Dr. Arthur Stern, Elizabeth; "Present Status of the Milk Question," Dr. Alexander McAlister, Camden; "Influence of Overweight and Underweight on Vitality," Dr. Brandreth Symonds, New York; "Report of a Case of Excision of the Stomach for Carcinoma," Dr. Edward Stachlin, Newark; "Review of Hernia as Understood and Treated at Different Epochs by Past and Present Masters of Surgery," Dr. Thomas Mackenzie, Trenton; "Clinical Features and Treatment of Acute Perforating Gastric Ulcer," Dr. Ellsworth Eliot, Jr., New York; "Reflex Gastric Symptoms as a Factor in Surgical Disease of the Abdomen," Dr. John P. Reilly, Elizabeth; "The Psychic Element in Medical Practice," Dr. L. Emerson, Chicago; "The Drink Habit and Its Treatment," Dr. Charles A. Rosenwasser, Newark.

WISCONSIN STATE MEDICAL SOCIETY,

Sixty-second Annual Meeting, held at Milwaukee, June 24-26, 1908.

(*Continued from page 525.*)

Open-Air Treatment of Pneumonia.

DR. ARTHUR J. PATEK, Milwaukee, stated that the open-air treatment of pneumonia was mentioned nearly 150 years ago; that it had been resurrected, and in 1904, W. P. Northrup presented his first account of the method he had been pursuing for eleven years in treating bronchopneumonia in children. Access of cold air to the body, well protected, is devoid of danger. Puerperal fever, surgical sepsis, typhoid fever, pneumonia, meningitis and other acute inflammatory conditions had been successfully combated by the method. Even temperature, instead of being desirous, is a menace in the sick room, and fresh air currents and changing temperature are essential. People should cultivate fresh air for twenty-three out of twenty-four hours. Oxygen is inferior to fresh air in disease. The results of the latter day open-air treatment of pneumonia were apparently very favorable. The distress signals in pneumonia were due to the intensity of the pulmonary invasion or to failure of the heart, and these conditions were invariably relieved by the cold-weather treatment. He concluded that fresh air, unpolluted, unheated, cold if possible, was the purest stimulant and best prop to a sick, badly functionating lung.

DISCUSSION.

DR. L. F. JERMAIN emphasized the importance of prevention in pneumonia, stating that while tuberculosis was decreasing, pneumonia was increasing. More attention should be paid to prophylaxis, and the care of the sputum in pneumonia was as important as in tuberculosis. He endorsed the open-air treatment. In the absence of a specific antitoxin serum, treatment must necessarily be eliminative and supportive.

Other Papers Read.

The following papers were also read: "Anaphylaxis," Dr. Karl Smith, Madison; "Ophthalmia Neonatorum," Dr. F. R. Boyce, Madison; "Modern Operation for the Cure of Inguinal Hernia," Dr. E. Wyllys Andrews, Chicago; "Chronic Auriculoventricular Heart Block in the Dog," Dr. Joseph Erlanger, Madison; "Present Status of Medical Expert Testimony on Insanity; a Plea for Corrective Legislation," Dr. F. C. Studley, Milwaukee; "The Medical, Ethical and Forensic Aspects of Criminal Abortion," Dr. Wilhelm Becker, Milwaukee; "Causes of Monsters," Dr. C. R. Bardeen, Madison; "Actinomycosis," Dr. Louis Falge, Manitowoc.

Proceedings of the House of Delegates.

REPORT OF THE EXECUTIVE COMMITTEE ON MEDICAL DEFENSE.

DR. G. E. SEAMAN presented the report and a discussion followed on the general question of medical defense, especially as regards giving the committee discretionary power as to the subjects to be defended, and the solution of the problem was that all defensible cases would be defended. Objection was made that a man might get no defense. The reason given for not making the matter more definite was that if it were compulsory that all cases should be defended other than those of a criminal or immoral character, an innocent man might be accused of some offense of that character which would need defense to a greater degree than the ordinary malpractice case.

REPORT OF COMMITTEE ON PUBLIC POLICY AND LEGISLATION.

DR. A. W. GRAY, chairman, presented his report. A discussion followed, and resolution was carried to assess the membership $2 next year, the assessment to be voluntary and not obligatory on the members, for the purpose of prosecuting the cases now pending in the courts against quack medical institutes. The facts were shown to be that the state through its district attorney, was unwilling, or unable to take charge of these cases. The Board of Medical Examiners had no money to take care of them. While it is the duty of the medical examiners of Wisconsin to prosecute these cases, it was agreed by all that it was a proper obligation for the members of the society to assume, and it was the opinion of the delegates that an effort should be made in all the societies to raise as much as possible for action in that direction.

THE REPORT OF THE COMMITTEE ON THE PREVENTION AND CURE OF TUBERCULOSIS.

DR. M. P. RAVENEL, Madison, presented this report, which was adopted. It stated that it seemed to be now universally admitted that the chief source of infection for mankind lay in the sputum of consumptives. The second source of infection was bovine tuberculosis. The report gave the most important measure of prevention as destruction of the sputum, burning being the best method, and when this was not available the use of strong germicides. The committee favored the extension of the tuberculin testing of cattle. It recommended careful training of children in well-ventilated rooms, proper hours of rest, exercise and use of plain but abundant food. The three agents of utmost value in the cure of tuberculosis are fresh air, good food and rest; the use of drugs should be limited; medication should be avoided so far as possible; early diagnosis should be made; the physician should be master of the situation and insist on rigid discipline and routine of life. As an aid to early diagnosis in doubtful cases, the report recommended the use of tuberculin, and stated that the hygienic laboratory at the University at Madison was at the service of physicians for advice and the examination of sputum, free of charge.

REPORT OF THE DELEGATE TO THE COUNCIL ON MEDICAL LEGISLATION OF THE AMERICAN MEDICAL ASSOCIATION.

DR. GILBERT E. SEAMAN presented this report. The Council on Medical Legislation of the American Medical Association adopted the report of the Committee on Uniform Medical Legislation, declaring in favor of a standard and uniform bill regulating the practice of medicine and reciprocity in medical license, and also passed a resolution in favor of legislation providing for physical examination and re-examination of railroad employés having to do with the operation of trains on railroads doing an interstate commerce business, and a committee was appointed to draft a bill and present the same to Congress at the next session. The Committee on Uniform Vital Statistics of the National Council made an exhaustive report and presented a bill regulating the collection and preservation of vital statistics for adoption in the various states, which was approved. The report of the committee on Uniform Food and Drug Laws of the national council recommended the drafting of a standard law for all the states where such law does not exist, and the report was adopted. Dr. Seaman recommended hearty cooperation and support on the part of the Wisconsin State Medical Society.

NATIONAL DEPARTMENT OF HEALTH.

The secretary, Dr. Charles S. Sheldon, then read a communication from the Committee of One Hundred on National Health, asking for the support of the society in the effort to organize a board of national health or a department of national health; and also a communication from the Secretary

of the American Medical Association with reference to the organization of branch societies. A motion was made that both matters be referred to a committee and suitable resolutions drawn up, which motion was unanimously carried. The resolutions, which were presented later, were as follows:

WHEREAS, We believe that the government should devote more attention to the application of hygiene to public health, and

WHEREAS, The Committee of One Hundred of the American Association for the Advancement of Science has taken active part in the movement looking toward the establishment of national control over all matters relating to public health; therefore be it

Resolved: That the Wisconsin State Medical Society heartily indorses this movement and desires to put itself on record to that effect.

CONTROL OF MIDWIVES.

DR. CHARLES S. SHELDON read a resolution drawn by a committee of the Milwaukee County Medical Society:

"*Resolved*, That the Committee on Public Policy and Legislation of this Society be and hereby are directed to use all possible efforts to secure the enactment of a law by the next legislature providing for the licensing and control of midwives by the State Board of Medical Examiners."

The resolution was unanimously adopted.

PREVENTION AND CURE OF TUBERCULOSIS.

A resolution from a committee from the second district on "Proposed Legislation for the Prevention and Cure of Tuberculosis, Looking to the Formation of a Bureau at Madison," was read by Secretary Sheldon, and after some discussion, was referred to the Committee on Public Policy and Legislation for consideration.

Election of Officers.

The following officers were elected: President, Dr. G. E. Seaman, Milwaukee; first vice-president, Dr. H. J. Stalker, Kenosha; second vice-president, Dr. J. M. Dodd, Ashland; third vice-president, Dr. H. B. Fears, Beaver Dam; delegates to the American Medical Association, Drs. Carl Doege, Marshfield, and C. A. Richards, Rhinelander.

A motion to refer the proposition of making the state assessment (exclusive of any county dues) $4 annually, was referred to the various county societies for a referendum vote.

Madison was chosen the next place of meeting.

Medicolegal

Proper Explanations Bearing on Physician's Bill.

The Supreme Court of New York, Appellate Division, Third Department, says that action in the case of Louis vs. Du Bois was brought by a physician to recover for services in attending Lucy Du Bois, a sister of the defendant. The plaintiff's evidence tended to show that he performed the services for the defendant on the latter's undertaking to pay therefor. The defendant's evidence, while practically admitting that the funds would in the end be furnished by him, contended that he was not primarily liable for the bill, and did not employ the plaintiff. The defendant put in evidence a bill rendered to him, the charge being made to Lucy Du Bois for professional services rendered her. This, unexplained, seemed somewhat antagonistic to the plaintiff's claim, and had a tendency to show that the employment was by Lucy Du Bois, or that the services were being rendered on her account. The plaintiff was asked, with reference to this bill, whether he ever had any conversation with Lucy Du Bois about it in any way for his services; whether there was ever any agreement or talk with the patient with reference to his being engaged to attend her or perform services for her; whether he ever charged, on his book or otherwise, the services to Lucy Du Bois; whether the bill was intended as a charge against Lucy Du Bois or was intended to indicate the party to whom the services had been actually delivered; and whether the defendant stated or indicated to plaintiff at any time that the patient was to pay or adjust the bill. These various questions were objected to and excluded, to which the plaintiff excepted. The plaintiff clearly had the right, by answering these questions, to rebut so far as his answers might any inference to be drawn from the manner in which the bill was made out.

Construction of Georgia Medical Practice Act as to Whom It Covers—About "Magic Healers" and Others—Physician Not Liable for Malicious Prosecution.

The Court of Appeals of Georgia says that the plaintiff in the case of Bennett vs. Ware was arrested on a warrant sworn out by the defendant charging the plaintiff with practicing medicine without a license, in violation of the statutes of that state. On a preliminary investigation the plaintiff was discharged, and thereupon he brought this suit against the defendant for malicious prosecution and false imprisonment. In his petition he alleged that at the time of his arrest and incarceration in the common jail he was engaged in the "profession of healing diseases without the use of medicine, commonly and better known as a 'magic healer'"; that he had healed the sick without the use of medicine in any form or manner whatever by placing his hands on that portion of the body which was affected by pain; that this gift or magic power was given him direct from the Lord; that he made no charge for his services, but accepted such compensation as the gratitude of his patients induced them to offer voluntarily; that, as a result of his arrest and prosecution for practicing medicine without a license, he suffered great humiliation and mortification, lost two days' compensation in "gifts," amounting to $25 per day, was put to an expense of $15 in employing a lawyer to defend him against the untruthful accusation and, in fact, "lost almost his entire practice"; that his prosecution was malicious and without probable cause; and that he had been damaged in the sum of $5,000. A demurrer was filed to this petition on the ground that the allegations showed that the plaintiff was in fact practicing medicine and suggesting remedies for the sick and afflicted, and receiving compensation therefor, without complying with the statutes of the state regulating the practice of medicine, and therefore that there was probable cause for his arrest and prosecution. The demurrer was sustained.

The direct question for determination was whether the plaintiff, under the facts set out in his petition, was engaged in the practice of medicine as defined by the statutes of Georgia. By virtue of its police power, the state has enacted legislation to protect the public against unfit and incompetent practitioners of medicine, and to prevent the results of malpractice.

In construing these statutes it is apparent that the law of this state recognizes only three systems or schools of medicine —the "regular," the homeopathic and the eclectic schools. It is impossible for one who desires to practice any other system to do so in this state as a practitioner of medicine, because under the law he can not procure a license. In other words, the law only proposes to grant a license to practice medicine to the allopath, the homeopath or the eclectic. It is true the statute provides that, "if the applicant desires to practice a system not represented by any of the" three boards, "he may elect for himself the board before which he will appear for examination"; but this is a barren privilege, for none of the three boards can or will examine any applicant except one who has a diploma from a regular medical college, or who proposes to practice one of the three systems. It would be absurd to say that one who practiced the healing art by magnetism, Eddyism, spiritualism, hypnotism, mesmerism or any other form for the treatment of disease based on a supernatural agency would be entitled to be examined by any one of the medical boards of the state; for the science of medicine is based on natural agencies. The court, therefore, concludes that only those who propose to practice medicine by one of the schools or systems recognized by the statutes of the state are required to have a license.

It was said that section 1478 of the Political Code of Georgia of 1895 undertook to define the practice of medicine, and that this definition embraced the particular practice of the plaintiff. According to his statement, his method consisted simply in laying his hands on the sick at the point or place of pain or disease, and the healing which followed was by a direct divine agency. Do the words in the statutory definition "or other agency, whether material or not material, for the cure, relief or palliation of any ailment or disease of the mind or body" embrace an agency of this character? It may be conceded that the words "material or not material" are sufficiently broad to include at least every human or natural agency. But

the court can not believe that the legislature intended to include in the practice of medicine what may be called psychotherapeutics, or any form of the treatment of the sick which makes faith the curative agency. The words "other agency," "material or not material," should be construed in obedience to the maxim, "*Noscitur a sociis*" (it is known from its associates), and the meaning of the word "agency" must be limited by the associated words "drug, medicine, appliance, apparatus." In other words, the word "agency," even as qualified by the words "material or not material," was intended by the legislature to mean a substance of the general character of a drug or medicine, or surgical apparatus or appliance, the obvious purpose being to protect society against the evils which might result from the use of drugs and medicines by the ignorant and unskilful.

The purpose of the act is clearly indicated by its title, "to regulate the practice of medicine." It was not intended to regulate the practice of mental therapeutics, or to embrace psychic phenomena. These matters lie within the domain of the supernatural. Practical legislation has nothing to do with them. If they are a part of a man's faith, the right to their enjoyment can not be abridged or taken away by legislation.

However the so-called wisdom of this world may regard these things, it can not be denied that long before the Savior told His disciples that in His name they should heal the sick and prevent all manner of diseases by the laying on of hands, the practice of healing by means of prayers, ceremonies, laying on of hands, incantations, hypnotism, and other forms of psychotherapeutics existed. To the iconoclast who denounces these things as the figments of superstition, or to the orthodox physician who claims for his system all wisdom in the treatment of human malady, the court commends the injunction of Him who was called "the Good Physician," when told that others than His followers were casting out devils and curing diseases: "Forbid them not.' What matters the system, if, in fact, devils are cast out, and diseases are healed?

The court deduces: That the practice of medicine, defined by the code, is limited to prescribing or administering some drug or medicinal substance, or to those means and methods of treatment for prevention of disease taught in medical colleges and practiced by medical practitioners; that the purpose of the act regulating the practice of medicine was to protect the public against ignorance and incompetency by forbidding those who were not educated and instructed as to the nature and effect of drugs and medicine, and for what diseases they could be administered, from treating the sick by such remedial agencies; that the law is not intended to apply to those who do not practice medicine, but who believe, with Dr. Holmes, that "it would be good for mankind, but bad for the fishes, if all the medicines were cast into the sea," nor to those who treat the sick by prayer or psychic suggestion.

The court is clear that the plaintiff was not a practitioner of medicine in the sense of the statute or in the popular sense; and the fact that he received fees and compensation for treatment in the shape of gifts could not make what would otherwise not be the practice of medicine a violation of the statute regulating such practice, for it must be apparent that, if the mere laying on of hands amounts to the practice of medicine in any sense, it is so without reference to fee or reward.

But while the court holds that, under the allegations of the petition, the plaintiff was not engaged in the practice of medicine, and therefore was not violating the law regulating such practice in this state, it does not think that he was entitled to recover damages for malicious prosecution from the defendant physician who swore out the warrant against him. The question of law involved was sufficiently in doubt, in its application to his practice, fully to warrant a legal investigation of the question; and, in taking out the warrant, the defendant was fully justified by the existence of the probable cause; his act was without malice, and in behalf of the public. Besides, the court thinks that the practice of the plaintiff, while not in violation of the statute regulating the practice of medicine, was presumptively an imposition on the credulity of the public, which might in its consequences result in much injury, and that he was exercising a pretended power of magnetic healing to the deception of the people, and was obtaining their money in the shape of gifts under false pretenses, and the court does not think that the law should permit him to recover damages resulting from a legitimate effort on the part of a citizen to test the legality of his practice. The court therefore affirms the judgment of the court below in sustaining the demurrer and dismissing the plaintiff's petition.

Death After Fall Against Timbers and What Constitutes "Infection."

The Supreme Court of Kansas says that the injury to the insured in Continental Casualty Company vs. Colvin was received on January 9 from a fall which precipitated him against the edge of timbers, whereby he was bruised on the left side of his chest with sufficient force to cause external soreness and discoloration of the skin. He did not regard the injury as serious when it was received, although quite painful, and, except for a loss of six days, he continued at work with the occasional assistance of his fellow-servants, up to January 29. January 31 he called a physician, who pronounced the ailment to be pneumonia, or pleurisy, and gave treatment therefor. On February 14, there being no improvement, another physician was called, who, on examination and consultation with the first physician, decided that the former diagnosis was incorrect. The insured was then removed to a hospital, where, on February 16, an operation was performed by which it was ascertained that the chest cavity contained a large accumulation of pus. This was liberated and the cavity drained. The patient was very much exhausted, however, and on March 7 he died. The court affirms a judgment in favor of the beneficiary on an accident insurance policy which provided that the company should pay indemnity in the event that said insured should receive personal, bodily injury which was effected directly and independently of all other causes through external, violent and purely accidental means and which caused at once total and continuous inability to engage in any labor or occupation, which was followed by the further provision that if within ninety days from the date of the accident loss of life should result the company would pay the principal sum stipulated. The court holds that in an action by the beneficiary named in such a policy to recover the stipulated indemnity for the death of the insured, who died from an accidental injury, the condition that such death must have resulted "necessarily and solely" from such injury would be satisfied by showing that the injury was the predominating and efficient cause of the insured's death. The fact that other conditions were set in motion by the injury which may have contributed to such result was immaterial. The court also holds that the word "infection" as used in such a policy in providing for special indemnities "where the loss is occasioned or contributed to in any way by erysipelas, blood poisoning or infection," relates to external injuries, and does not include internal inflammations where pus is formed by the presence of pus germs.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

August 6.

1 *Some Aspects of Gonorrhea. F. Forchheimer, Cincinnati.
2 Stenosis of the Pylorus in Infancy. A Surgical Emergency. Report of Four Patients Operated on with Recovery. End Results. C. L. Scudder, Boston.
3 The Tonsils and Their Relation to the General Health. C. P. Sylvester, Boston.
4 *The Demonstration of the Spirochæta Pallida by the Method of Dark Field Illumination. W. C. Quinby, Boston.

1. **Gonorrhea.**—Forchheimer discusses the history of our knowledge of gonorrhea and reproduces various statistical tables showing the morbidity in various armies, the United States Navy and in civil life in Germany, a comparative analysis of alcohol and gonorrheal morbidity in the United States Army, and finally on his own results in Cincinnati, of strict examination of patients as to gonorrheal history. He takes up the question of sterility in relation to gonorrhea, but follows a course different from that pursued by Erb in his researches. Forchheimer has taken three generations, the histories of which are all known to him, whom he has attended in all kinds of

illnesses, 42 couples or 82 persons in number. He recapitulates his results practically as follows:

1. The morbidity of gonorrhea is diminishing.
2. The American army and navy are exceptions to this rule.
3. The present mathematical methods of deducing incidence of gonorrhea in all men from morbidity lead to fallacious results.
4. Of all males, 54.1 per cent. have gonorrhea during their lifetime.
5. We have not sufficient knowledge of the facts to state how many women have had gonorrhea during their lifetime.
6. The small number of his cases of sterility does not justify any positive conclusion.
7. Prevention of conception is the cause of "one child sterility" in the majority of instances.

Whenever his figures have shown anything it is always that the propagandists have greatly overestimated the frequency, the complications, and the dangers of gonorrhea. This has been notably the case with specialists in genitourinary disease in the male and in the female. . . . That there is much damage done by gonorrhea is abundantly shown by all statistics; therefore, it is a righteous cause to fight for its reduction. But no righteous cause is aided by such lurid statements as have been made in connection with gonorrhea.

4. **Demonstration of Spirochæta Pallida.**—Quinby describes the method of dark field illumination for the demonstration of *Spirochæta pallida*, and draws the following conclusions:

1. It should be a routine practice to examine all suspicious lesions for the *Spirochæta pallida*.
2. The organism has a definite morphology and can be differentiated from other spirochetes by careful microscopic examination.
3. This is best done by the method of dark field illumination, with or without subsequent examination of a stained specimen.
4. Since the organisms are not always numerous on the surface of the lesion, the method of obtaining them is of importance. A most satisfactory way is that of suction, as described above, and the case should not be pronounced negative until some such method has been used.

Medical Record, New York.

August 8.

5 *Darwinism and Diabetes. R. G. Eccles, Brooklyn, N. Y.
6 Symptomatology of Recurrent and Abductor Paralysis of the Larynx. C. C. Rice, New York.
7 Mechanical Vibration in the Treatment of Constipation and Pelvic Conditions. M. L. A. Snow, New York.
8 Physiologic Action of the Mount Clemens Mineral Baths. R. Leuschner, Mount Clemens, Mich.
9 Use of Bacterial Vaccines. H. Britenstool, New York.

5. **Darwinism and Diabetes.**—Eccles continues his consideration of the nature of diabetes from a former article (*Medical Record*, May 9, 1908, abstracted in THE JOURNAL, May 23, p. 1753). He discusses the theory that heredity is a cause of diabetes, and argues that no tissue and no organ has ever been convicted of spontaneously starting disease. True heredity is a heritage of health and health-protecting appliances only. The idea of heredity as transmitting disease or tendencies to particular disease is to reverse the law of natural selection. Heredity is through and through but one mass of accumulated fitnesses. Such apparent maladjustments as we discern are but relative weaknesses toward conditions over which natural selection has had insufficient play. In seeking for the etiology of diabetes there are many more things to explain than a supposed loss of glycolytic power, or the results of the impaired functioning of any single organ of the body. Any satisfactory theory of diabetes must give some sort of explanation of many facts: Why the apparent waste of sugar occurs; how transient glycosuria is related to diabetes mellitus in causation; why pancreatic and transient glycosuria can occur in nearly all vertebrates; why diabetes patients are most common among the rich proteid users; why injuries are the common precursors of diabetic attacks; why extirpation of the duodenum produces as severe a diabetes as ablation of the pancreas; why in cold-blooded animals there is no glycosuria in ablation of the pancreas if the liver is removed at the same time; why the protoplasm of the muscles is damaged in all severe cases of diabetes; why glycogen disappears from the liver and muscles; why the heart, leucocytes, renal epithelium, cerebrum, etc., accumulate unusual amounts of glycogen; why the kidneys have increased their impermeability toward sugar but have not done so toward any other substance; why the body converts other kinds of food into sugar when carbohydrates are withheld; why, in starvation, the body consumes its own tissues in order to supply sugar to the blood and keep up the glycosuria; why approaching coma can be arrested by feeding with carbohydrates; why serious cases can be mitigated by feeding the patients with oatmeal and potatoes; why diabetes can exist with the pancreas in a perfectly healthy condition; why antiseptics produce a transient arrest of the glycosuria.

The author then suggests that a microbic explanation of diabetes would be essentially a Darwinian one, and would explain more facts than any other. In brief, he suggests that diabetes is an infection of the blood with some very common microbe, e. g., the colon bacillus, which thrives on sugar for choice, but is capable of proteolytic action when sugar is no longer available. With a deficiency of sugar in the intestinal canal, the organism finds its way through the blood stream to the source of glycogen and there sets up an irritation to which the liver responds by giving all the sugar it can possibly supply. The muscles, too, constitute other centers of sugar supply. A chemotactic optimum having been arrived at, the bacterium drifts away from the source of sugar, landing in a condition of surfeit at the kidneys, unless engulfed by phagocytes on the way. Arrived in the kidneys, the cells there would have to be protected against them so that a further protective overflow of sugar into the urine would keep the organism surfeited until either killed or expelled from the body. Eccles concludes by referring to the new potato cure and the oatmeal cure, which, he says, have their basis in the slow hydrolyzing of the substances into sugar, thus keeping up a supply of that substance within the intestinal canal. This would have no effect on the number of parasites already in the blood, but would lessen the accessions to it; while phagocytosis and kidney activity would lessen the numbers in the circulation.

New York Medical Journal.

August 8.

10 *The Tonsil from an Evolutionary Point of View. J. Wright, New York.
11 *Confessions of a Yeoman Prostatectomist. J. R. Eastman, Indianapolis.
12 *Real Conservatism in the Treatment of a Prostatic. G. M. Muren, Brooklyn, N. Y.
13 Anterior Poliomyelitis. I. D. Steinhardt, New York.
14 Acute Anterior Poliomyelitis in the Adult. L. Archambault, Albany, N. Y.
15 Malaria in Greece. A. Ross, New York.
16 *Prostitution. J. L. Nascher, New York.
17 How Plague is Spreading in Venezuela and Trinidad. J. F. Donnelly, New York.

10. **The Tonsil.**—Wright discusses the tonsil from an evolutionary standpoint, and argues the possibility that the enlarged tonsil in children is a protective condition. He says: "From various clinical facts, to some of which I have alluded, it seems likely that it is the small sunken, ragged tonsil, and not the large tonsil, which lets through the dangerous germ. Whether it is a septic or a tuberculous germ, the lymph nodes below swell up as a result of a local or systemic reaction, which seems calculated to retard the passage of the germ to the vena cava. Increase in size of the cervical lymph nodes can hardly be accepted as evidence of an increase in the filtering efficiency of their lymphoid structure without ascribing as much or more to the lymphoid structure of the tonsil and its coverings. The surgeon knows how much the absorption of cocain is retarded on the inflamed surface. Swelling of the tonsil, then, appears to some extent as a closing of the gate in acute conditions. Chronic enlargement seems clinically a sequence, but may it not be regarded physiologically as a continuation of the reaction? Does it not seem, keeping in mind the blind sort of way protoplasm varies, that it is an awkward move to keep the gate partly closed? It is certainly awkward, for it deepens the pits and narrows the air and food way; but then, protoplasm has had no university education in physiology."

11. **Prostatectomy.**—Eastman discusses the various methods of the principal noted prostatectomists, and concludes that operative treatment has now reached the point at which we are justified in saying that all cases of prostatic hypertrophy should be treated by prostatectomy, partial or complete, as soon as the condition has begun to produce annoying symptoms. It is important that we should not wait until the last word has been said on technic before we unanimously and with emphasis plead for early operation in this as in other painful and fatal maladies. When the profession generally appreciates the importance of early prostatectomy, before serious complications have developed, then the prostatectomist of average skill, the yeoman, may be able to approach more nearly to the standards of the masters.

12. **Treatment of the Prostatic.**—Muren is in favor of the removal of the gland whenever the patient's condition justi-

fies the risk. While suitable cases for operation must be selected, too little consideration has hitherto been given to those unfortunates who can not be classed as select cases. In many of these the two-stage operation may be well borne—preliminary drainage of bladder, and later, after sufficient improvement, complete removal of the gland. Muren recently has drained suprapubically. It is more rapid, disturbs the patient less, and failing sufficient improvement, the suprapubic fistula may be made permanent. Local anesthesia is all that is needed. He discusses the operation and protests against the routine use of the cystoscope in enlarged prostate without adequate indication, as needlessly painful and distressing to the patient.

16. **Prostitution.**—Nascher comments on Knopf's paper in the *New York Medical Journal*, May 2, 1908, abstracted in THE JOURNAL, May 16, page 1649. He compares the responsible factors in this country and abroad, instancing in particular Edinburgh, London, Paris and Vienna. He does not consider insufficient wages a marked cause in this country, save among those brought up amid vicious surroundings. He holds the stage much responsible for prostitution, and particularly accuses the lowering of the moral tone by the use of alcohol. Bad housing he regards as really of less importance than the racial traits of the dwellers, and instances the ghetto, where the housing is bad, but sexual immorality is not common. He says: "There should be severe punishment, not a fine, but imprisonment, for the employer, foreman or superior who assails an employé's virtue, though it be with her consent. This is a potent factor in the etiology of prostitution among working girls." Nascher especially condemns the pander, whom, however, the law unfortunately can not reach.

The Lancet-Clinic, Cincinnati.

August 1.

18 *The Unreasonable Traditions of Medicine. B. Holmes, Chicago.
19 What Subjects Can Be Practically Included in a Year's Work in Chemistry, Physics and Biology? W. F. Mercer, Athens, Ohio.
20 *Baby Farms. L. M. Cusher, Cincinnati.

18. **Traditions of Medicine.**—Holmes refers to the difficulty of abolishing exploded traditions from the minds of many. He cites the doctrine of tuberculosis heredity, the "adenoid fad," the use of non-committal terms, e. g., synovitis, cystitis, etc., and urges a return to rational nomenclature that means something nosologically definite.

20. **Baby Farms.**—Cusher considers the abomination of baby farming, and while admitting that some institutions of the kind are necessary in large cities, urges their supervision by the board of health, the employment of trained nurses and reputable physicians, and compulsory registration with the consent of some incorporated charitable institution of the state. He reproduces the bill before the Ohio legislature.

The Medical Fortnightly, St. Louis.

July 25.

21 Acute and Chronic Rheumatism. R. W. Webster, Chicago.
22 Glimpses of Early St. Louis Medical History. John J. McDowell. W. B. Outten, St. Louis.
23 Laryngeal Stenosis Treated by Laryngoscopy. R. H. Johnston, Baltimore.
24 *Gastroptosis. J. M. Bell, St. Joseph, Mo.

24. **Gastroptosis.**—Bell says that during the lying-in period more attention should be paid to proper bandages for weakened recti muscles and a slower return to a full diet, while the stomach walls, as well as all intra-abdominal ligaments are weak. Rest cures that compel patients to lie in bed with forced feeding to deposit fat in the abdomen, cure gastroptosis, providing serious relaxation of the abdominal muscles is not present. He recommends meals small, frequent and dry, the less weight the better; hence soups, broths, etc., are interdicted, as they contain so little nourishment for their weight. Carbohydrate diet is preferable because of its shorter sojourn in the stomach. It begins to pass the pylorus in thirty minutes, and within an hour is gone, while proteids require from one and a half to three hours or even four. Next to diet and rest comes proper scientific massage of the abdominal muscles daily for at least two weeks, after that at greater intervals for a month or two longer. The effect of cold abdominal douches is perceptibly tonic. Electricity has a psychic, and perhaps some real influence. Lavage is not generally recommended, still he finds it of material assistance in establishing tone to the motor function—peristalsis. In acute cases the patients will recover in four or six weeks; in chronic ones longer. Such patients should be kept under observation for several months after all symptoms have disappeared, to guard against relapse.

Virginia Medical Semi-Monthly, Richmond.

July 24.

25 *Some Anomalies of the Stigmata of Degeneracy. M. R. Hughes, St. Louis, Mo.
26 Postoperative Ileus. I. S. Stone, Washington, D. C.
27 Personal Experiences and Observations on Hernia and Herniotomy. R. C. Bryan, Richmond, Va.
28 Scarlet Fever. Report of a Case Developing Acute Nephritis and Treated by Spartein Sulphate. W. A. Lewis, Enterprise, Ala.
29 Diagnosis and Treatment of Empyema. M. E. Nuckols, Richmond, Va.
30 Dysentery. W. F. Waugh, Chicago.
31 The Choice of an Anesthetic in Anal Surgery. J. M. Lynch, New York.
32 Principles of Surgery. S. McGuire, Richmond, Va.

25. This article was published in the *Medical Fortnightly* Nov. 11, 1907, and abstracted in THE JOURNAL, Dec. 14, 1907, p. 2037.

Surgery, Gynecology and Obstetrics, Chicago.

July.

33 Perineorrhaphy for Complete Lacerations. T. J. Watkins, Chicago.
34 Primary Carcinoma of the Appendix. Case Report. J. J. Coons, Columbus, Ohio.
35 *Transplantation of Ovaries. F. H. Martin, Chicago.
36 *American Gynecological Society. President's Address. J. M. Baldy, Philadelphia.
37 *Cesarean Section Versus Sections of the Pelvis in Dealing with Mechanical Obstructions to Childbirth. A. L. Smith, Montreal, Canada.
38 *Immediate vs. Delayed (Expectant) Operation in Case of Ectopic Gestation. E. H. Grandin, New York.
39 *Report of Fifty-two Pregnancies and Labors Following Ventrosuspension of the Uterus for Retrodisplacements. J. O. Polak, Brooklyn, N. Y.
40 *Suggestions in Teaching Gynecology, with Demonstrations of Special (Mechanical) Charts as an Aid in this work. J. A. Sampson, Albany, N. Y.
41 *Ventrosuspension an Unsafe Operation for Posterior Displacement of the Uterus During Child-bearing Age. E. B. Cragin, New York.
42 Acute and Chronic Appendicitis. A. H. Barkley, Lexington, Ky.
43 *So-Called Phlebitis of the Left Leg Following Appendicitis Not Operated On, with Some Theoretical Considerations of the Etiology of Postoperative Phlebitis. W. H. Buhlig, Chicago.
44 The Factor of Mortality in the Operation of Hysterectomy. Report of 105 Cases. M. Willis, Richmond, Va.
45 *The Pathogenesis of Ganglia, with a description of the Structure and Development of Synovial Membrane. W. C. Clarke, New York.
46 *Immediate vs. Deferred Operation for Intra-abdominal Hemorrhage Due to Tubal Pregnancy. H. N. Vineberg, New York City.
47 *Deferred Operation for Intra-abdominal Hemorrhage Due to Tubal Pregnancy. F. F. Simpson, Pittsburg, Pa.

35. **Transplantation of Ovaries.**—Martin repeats the histories of his first two cases of heteroplastic ovarian grafting (published in the *Chicago Medical Recorder*, July, 1903, and abstracted in THE JOURNAL, Aug. 1, 1903, p. 337) and gives the subsequent histories of the patient. To these reports he adds a third case of heteroplastic grafting done in December, 1905, and reported on in May, 1906. He also reports five cases of homoplastic grafting, in which small portions of sound tissue from ovaries that had to be removed in their entirety were replanted in the patient.

In Cases 1 and 2 there was unquestionably a revivifying influence on the menstrual apparatus. This was shown by appearance of vaginal discharge at intervals of thirty days for a considerable period, the discharge of blood on several occasions, and in the prompt elimination in Case 1 of the nervous symptoms which are observed in a menopause. In Case 3 the patient unfortunately has neglected to report. Martin believes that more ideal results might be expected if the transplantation in these cases could have been done sooner after the primary removal of the ovaries, before all the effects of the ovarian secretion had been eliminated from the patient's tissues and thereby terminated the rhythm or habit of menstruation and thoroughly established the changes of the menopause. Four of the five patients of homotransplantation reported regular and apparently normal menstruation. The other patient did not report after the operation. He reviews

the literature of ovarian transplantation, both in human beings and in animals, and from it, with his own personal experience, he draws the following conclusions:

1. The operation of homoplastic or heteroplastic transplantation of the ovaries in women, or in lower animals, is no more dangerous if accomplished aseptically than any other small plastic operation on the appendages. (Morris, Dudley, Fish, Grlegorieff, Frank, Arendt, Ribbert, Rubenstein, Glass, Mauclaire, Amico Roxar, Monprofit, Fox, Knauer, Martin.)

2. Homotransplantation of ovaries on women, or in lower animals, will prevent the atrophy of the genitalia which usually follows castration. (Morris, Fish, Dudley, Grlegorieff, Knauer, Lukaschewitsch, Foa, McCone, Mauclaire, Martin.)

3. It is not yet satisfactorily demonstrated that heterotransplantation of the ovaries in a considerable number of cases will give permanent relief from the nervous symptoms produced by the menopause or prevent atrophy of the genitalia otherwise following castration. (Basson, Martin.)

4. Heterotransplantation of ovaries in women, or in lower animals, may prevent the atrophy of the genitalia which usually follows castration. (Glass, McCone, Mauclaire, Schultz.)

5. Transplantation of ovaries from one species into another may result in preventing the ordinary changes in the genitalia resulting from castration. (McCone, Lukaschewitsch, Schultz.)

6. Menstruation will continue in women and monkeys after homoplastic transplantation of ovaries. (Morris, Glass, Dudley, Frank, Mauclaire, Hoiban, Martin).

7. Conception has followed homotransplantation in animals. (Grlegorieff, McCone, Amico-Roxar, Mauclaire, Magnus.)

8. Concention has followed heterotransplantation in animals. (McCone, Mauclaire, Guthrie.)

9. Conception has followed homotransplantation of the ovaries in women. (Morris, Frank.)

10. Conception has been reported following heterotransplantation of the ovaries in women. (Morris.)

11. Heterotransplantation of the ovaries should be accomplished as soon after the primary operation in which the receptor's ovaries have been sacrificed as possible, before the menopause has become established and the genitalia atrophied. (Martin.)

12. Transplanted ovaries in other localities than the normal will maintain their vitality, will functionate, and will prevent ordinary sequelæ of castration.

36 and 38. Abstracted in THE JOURNAL, June 20, 1908, p. 2100.

37. Abstracted in THE JOURNAL, July 4, 1908, p. 70.

39. **Ventrosuspension and Pregnancy.**—Polak enumerates the complications in pregnancy and labor that may follow ventrofixation, as they have been tabulated by Kelly, and says that his personal experience with pregnancy and labor following ventrosuspension enables him to deny that they hold true for that operation. In the literature little distinction has been made between fixation and suspension operations. Polak defends the operation of ventrosuspension on a basis of 687 suspensions done in the course of operations for almost all forms of tubo-ovarian and appendicular disease associated with retrodeviation of the uterus. He modifies Kelly's technic by substituting No. 1 ten-day chromicized gut for the silk suspension suture, and by not going so low on the posterior wall of the uterus in transfixing that organ. An examination of his statistics shows that ventrosuspension has not complicated or influenced any of the pregnancies or labors in this series, and he is convinced that a properly performed suspension leaves the uterus in as good a position and is as free from the possibility of relapse as any of the several procedures advocated for a permanent cure.

40 and 41. Abstracted in THE JOURNAL, July 4, pp. 70 and 71.

43. **Phlebitis Following Unoperated Appendicitis.**—Bublig reports a case of so-called phlebitis of the left leg in a patient with appendicitis not operated on, beginning about the tenth day of the illness. The onset of the complication and its clinical features tally so exactly with those of many of the postoperative cases that, in Bublig's opinion, they are of like nature. He then compares the possible factors present in this case with those suggested in the numerous theories that have been advanced in explanation of postoperative phlebitis. All relating to the actual operation and preliminaries can, of course, be discarded; also numerous factors—heavy bandages, sigmoid pressure, tumor, etc.—producing local or general abdominal pressure. Even the hot water bag was eschewed for fear of disturbing limiting adhesions. There had been no previous exhausting disease, no demonstrable feeble circulation and no anemia. Bublig further cites Welch's observation, in discussing venous thrombosis of the heart, that the small liability to thrombosis under the conditions of heart disease (in which slow, feeble and irregular venous current would be the paramount factor) is one of many evidences that mere slowing of the blood current is not an efficient cause. Ruling out any undetermined changes in the blood state with a subject still in a problematic stage, the chief factor remaining is any infection which might produce changes in the vessel. He considers infection the cause, and can not see how appendicectomies and hysterectomies can possibly be made strictly aseptic. The lymphatic route of infection is the one that appeals to the writer. Bublig promises to show elsewhere that "many of the reported cases of postoperative phlebitis are really phlegmasia alba dolens, and are, therefore, lymphatic in origin." And of the infectious nature of true phlegmasia alba dolens, Bublig says, there can certainly be no question.

45. **Pathogenesis of Ganglia.**—Clarke concludes his article practically as follows: In summing up the theories of the pathogenesis of ganglia, evolved from the various hypotheses considered in regard to the hernial theory, it would be presumptuous, in the face of Pick's observations, to assert that no such synovial protrusion has ever existed, causing a ganglion; but it must be added that the condition is exceedingly rare. As to the remaining theories he is positive that many ganglia are distended anatomic or adventitious bursæ, but the majority are connective tissue cysts, formed by degeneration, excited by unknown factors. In other words, he is convinced that ganglia are, very rarely, hernial protrusions of synovial membranes; frequently distended anatomic or adventitious bursæ; most frequently degeneration cysts.

46 and 47. Abstracted in THE JOURNAL, June 20, 1908, p. 2100.

American Journal of Medical Sciences, Philadelphia.
July.

48 *Congenital Pyloric Spasm and Congenital Hypertrophic Stenosis of the Pylorus in Infancy. H. Koplik, New York.
49 *Therapeutics of Self-Repair. S. J. Meltzer, New York.
50 *Safeguards of the Heart Beat. H. Sewall, Denver.
51 *Cardiac Arrhythmia. G. W. Norris, Philadelphia.
52 *Peculiarities of the Symptomatology of Rheumatism in Children. C. H. Dunn, Boston.
53 Statistics of Seventy Cases of Gastroscopy. C. Jackson, Pittsburg, Pa.
54 *Myelogenous Leukemia and Its Treatment with X-Rays. H. Harris, San Francisco.
55 Pyelonephritis Complicating the Puerperium. C. G. Cumston, Boston.
56 Anatomy and Pathology of the Carotid Glands. L. P. Gomez, Chicago.
57 Congenital Unilateral Absence of the Urogenital System and Its Relation to the Development of the Wolffian and Muellerian Ducts. H. E. Radasch, Philadelphia.

48. **Congenital Pyloric Spasm.**—Koplik writes his paper to show that this is a disease which is rather vacillating at times in its symptomatology; that the men who insist that the patients recover spontaneously are correct when their material is analyzed, and that those who insist on operative procedures in certain cases might be correct if their material were analyzed in a like manner. Both parties are possibly correct, but they have both been looking at opposite sides of the shield. With this end he publishes and critically analyzes cases of his own, and takes up the question whether in these cases there is a spasm, or a distinct stricture of the pylorus, or stenosis. He believes that there is a certain set of cases in which at a certain period of the illness there occurs a spasm of the pylorus and stomach, which later subsides and the children recover. In other cases to this pyloric spasm is added a distinct anatomic condition in which the structure of the pylorus is abnormal, causing a distinct stricture, which in many cases, however, is susceptible of improvement, while in a third set the spasm of the pylorus may subside, the lumen remaining narrow, yet the children may improve with correct diet. In this way only can he reconcile the conflicting theories found in the literature, viz.: that of Thompson, who insists that a muscular hypertrophy is superinduced by disordered coordination and contracture of the muscular coats of the stomach, due to swallowing some irritating substance—e. g., liquor amnii—at birth so that a functional hypertrophy due to overwork of the stomach develops; second, that of Pfaundler, who insists that all these cases are spasm cases and that the so-called new tissues of the hypertrophied pylorus are the result of postmortem or postoperative contraction; third, that some of the individuals are born with a congenital anomaly at the pyloric end, consisting of a form of hypertrophy or new growth. Koplik endeavors to show that all these theories are in a sense possibly true of many of the cases published. He reports cases of his own in three groups tending to confirm each of the three propositions. He discusses the diagnosis, prognosis and treatment of the condition.

49. Abstracted in THE JOURNAL, June 13, 1908, p. 2019.

50. **Safeguards of the Heart Beat.**—Sewall's considerations tend to strengthen the conception that regurgitation from the auricles, thus preventing overstrain, is an occurrence so frequent that it can not be regarded as a pathologic event. Also, the indications are unmistakable that regurgitation from one or both ventricles, not caused by excessive dilatation of the auriculoventricular rings, but due to valvular insufficiency produced in another way, is an early and habitual sign of heart weakness. The therapeutic importance of the recognition of such signs of enfeeblement, he says, hardly needs an advocate.

51. **Cardiac Arrhythmia.**—Norris discusses juvenile arrhythmia, extrasystole, perpetual arrhythmia, heart block, and depression of contractility—pulsus alternans—and draws the following conclusions as to the prognostic importance of arrhythmia: Arrhythmia of muscular origin is more serious than that due to nervous causes. We can determine the presence of the latter by deep breathing and by the effect of the atropin test. Further, the time and cause of an arrhythmia will much modify our opinion of its seriousness. The respiratory type of irregularity is generally of trivial consequence. Extrasystoles, although often insignificant, require careful investigation, especially if they occur in middle-aged or elderly people. Perpetual arrhythmia is always serious, and the same may be said of that rare condition, pulsus alternans. Auriculoventricular heart block also is unfavorable, for, although in some individuals the attacks may be precipitated by the injudicious administration of digitalis and disappear after withdrawal of the drug, and others may live for a number of years despite its presence, the symptom always indicates a disturbance of muscular functioning.

52. **Rheumatism in Children.**—Dunn bases the following division on the character of the onset and the severity of the case:

1. The mild arthritic type. These are cases with slight and brief fever and joint symptoms only, of a mild and brief, even fleeting character, confined to one or few joints. 2. The severe arthritic type, occurring in older children, with a severe polyarthritis resembling the adult type. 3. Latent type. In these cases there is at the onset a period with fever as the only symptom. Later may occur cardiac or arthritic symptoms, which may be so mild as to escape notice, or which may at any time become severe. 4. Mild primary endocarditis. These cases are characterized by fever and slight dyspnea, palpitation or precordial pain, the symptoms being of brief duration. Slight joint symptoms may develop in the course of the disease. 5. Severe primary endocarditis. These cases are characterized by fever and the whole train of the symptoms of cardiac incompetency. They usually run a prolonged and obstinate course, recovery occurring very gradually. At times death occurs from failure of the heart. 6. Mild pericarditis. In these cases precordial pain is the most prominent symptom, accompanied by fever and the other signs of cardiac weakness. They usually run a fairly long course. Effusion may or may not occur, and—a notable point—it may occur without increase in the severity of the cardiac symptoms. Cases of pericarditis almost invariably show endocardial murmurs also. 7. Severe pericarditis. In this type the fever is high, long-continued, and obstinate, and precordial pain is severe at the onset. Effusion always occurs. The symptoms of cardiac insufficiency become very marked and their severity usually shows little relation to the amount of effusion, although at times a sudden increase in their severity occurs in parallel with a sudden increase in the extent of the effusion. Recovery is slow, and death, when it occurs, is due to cardiac weakness.

54. **Myelogenous Leukemia.**—Harris discusses 4 cases of myelogenous leukemia observed at the Cooper Medical Clinic and one seen in private practice, and draws from them the following conclusions: 1. At present it is best to consider myelogenous leukemia a malignant neoplastic disease. 2. The *x*-rays are effective in treatment as a palliative measure. 3. The action of the *x*-rays is associated with the production in the patient of a leukolytic body or bodies.

Interstate Medical Journal, St. Louis.

July.

58 *Unilateral Dislocation of the Cervical Vertebræ. M. B. Clopton, St. Louis.
59 *Serum Disease as a Clinical Manifestation of Anaphylaxis. E. W. Saunders, St. Louis.
60 Arthritis Deformans in Children. I. A. Abt, Chicago.
61 *Differential Diagnosis Between Complete and Incomplete Uretero-Vaginal Fistula. E. Jonas, St. Louis.
62 Puerperal Fever. E. Runge, Berlin, Germany.
63 Bichat: His Life, Researches and Character. A. Eycleshymer, St. Louis.

58. **Dislocation of Cervical Vertebræ.**—Clopton discusses the frequence, pathology, symptoms, diagnosis, etiology and treatment of dislocation of cervical vertebræ by means of a critical summary of the literature under each head, and describes the following method of treatment elaborated by Walton from similar plans proposed by Richet and Hurter: The anesthetized patient sits in a chair. The operator stands behind and using both hands grasps the head, which is rocked without traction, for traction only lessens the effectiveness of the fulcrum on the sound side. Slight rotation to carry the dislocated process forward to free it is first practiced. The head and neck are then tilted to the sound side and backward (that is, if the patient with a left dislocation is facing north the head is tilted southeast). This makes the dislocated articular facet rise above the facet below. The last motion is the rotation of the column backward into place, and the reduction is complete. The method is styled "retrolateral flexion with rotation." He reports a case successfully treated by this method.

59. **Serum Disease.**—Saunders deduces the following rules for his consideration of serum disease as a clinical manifestation of anaphylaxis: Curative sera are not the harmless substances we originally supposed. Immunizing injections of serum should not be employed when isolation will prevent the disease with a reasonable degree of certainty and the children can be watched. Serum should not be used in asthmatics, or those suffering from Graves' disease or the lymphatic constitution, except in developed diphtheria. The use of bactericidal sera of doubtful value should not be encouraged, without careful consideration of all the possible bad effects from anaphylaxis. If a second dose of serum must be given during the few weeks following a primary injection, small repeated doses are preferable to a large single dose. On the other hand, one large initial dose is probably less harmful and far more effective than several small doses given over several days.

61. **Ureterovaginal Fistula.**—Jonas summarizes the deductions from his paper as follows: 1. Leergehen (empty contraction) of the ureter is an important point for differential diagnosis between a lateral opening and complete interruption of the continuity of the ureter in ureterovaginal fistula. 2. Operative interference in ureterovaginal fistula, when there is only a lateral opening in the ureteral wall, is not advisable until there has been a chance for spontaneous healing.

Illinois Medical Journal, Springfield.

July.

64 *The Medical Profession and the Public. W. L. Baum, Chicago.
65 Self-Administration of Drugs: Or Does It Pay to Have a Doctor? C. L. Mix, Chicago.
66 *Importance of Early Diagnosis and Prompt Surgical Treatment of Injuries to Diaphragm. J. Y. Brown, St. Louis.
67 *Treatment of Joint Tuberculosis. E. H. Ochsner, Chicago.
68 *Treatment of Tuberculous Sinuses, Fistulous Tracts and Abscess Cavities. E. G. Beck, Chicago.
69 Treatment of Gallstone Diseases. T. C. Kennedy, Shelbyville, Ind.
70 *Vertebral Auscultation in the Diagnosis of Bronchial Adenopathy. E. A. Gray, Chicago.
71 *Skimmed Milk as a Temporary Food for Infants. H. W. Cheney, Chicago.
72 The Nostrum and Proprietary Medicine Problem from the Standpoint of a Country Doctor. H. A. Pattison, Benld, Ill.

64, 66 and 68. Abstracted in THE JOURNAL, June 13, 1908, pp. 2016 and 2017.

67. Abstracted in THE JOURNAL, June 27, 1908, p. 2152.

70. **Vertebral Auscultation.**—Gray describes the normal auscultatory phenomena of the postcervical and upper dorsal regions. Not all normal individuals, however, present the same resonant characteristics; even as voices are different, so are the tracheal and bronchial notes as regards intensity. Departures from the normal are: (1) bronchophony, (2) whisper-concomitant, (3) extension downward of tracheal resonance, (4) cessation of vocal resonance at the level of the sixth or seventh cervical vertebra, (5) distant tone at some point between the occiput and the fourth dorsal vertebra. He discusses each of these departures, and says that as to the value of vertebral auscultation in adults more reliance will, of right, be placed on the usual methods of diagnosis, physical and laboratory. But in children, in whom the glands are so often primarily affected, it is obvious that any diagnostic which promises us the opportunity to discover deep-seated adenopathy must be of prime importance. Long before the frank signs of open, or so-called incipient, tuberculosis present themselves begins the period of latency, for which read tuberculous glands.

71. **Skimmed Milk.**—Cheney draws the following conclusions in his paper and urges a trial of the principles involved, even though they seem at first sight contrary to experience: 1. The theory that the proteids of cow's milk cause the principal difficulty in its digestion by infants, in the light of recent research and clinical investigation, is untenable and should no longer be taught. 2. Skimmed milk is a valuable temporary food in digestive disturbances of infants, is nutritious and easily digested.

American Medicine, New York.

July.

73 Health Department Methods for Supervision of the Milk Supply. W. C. Woodward, Washington, D. C.
74 The Autointoxications. E. E. Smith, New York.
75 *Hypertonia Vasorum Cerebri. W. F. Dutton, Pittsburg, Pa.
76 The Submerged Tonsil with Special Reference to Cervical Adenitis and Systemic Infections. L. M. Hurd, New York.
77 Sunlight and Solar Therapy in Relation to Tuberculosis. S. A. Knopf, New York.
78 Case of Gangrene of the Fingers. J. A. Cutter, New York, and H. G. McDonald, Hackensack, N. J.
79 Diagnosis of Tuberculosis by von Pirquet's Cutaneous Reaction. F. L. Christian, Elmira, N. Y.
80. Recent Literature on Dermatology and Syphilis. F. C. Knowles, Philadelphia.

75. **Hypertonia Vasorum Cerebri.**—Dutton discusses the pathologic conditions ascribed to hypertension of the cerebral vessels, their etiology, pathology, symptoms, diagnosis, prognosis and treatment. The factors in essential hypertension are (a) arteriosclerosis, (b) renal disease, (c) angiosclerosis. He discusses these in detail. He illustrates his modification of the Riva Rocci instrument for estimating blood pressure of the cerebral vessels, and points out that the eye frequently presents the first proof of hypertension therein, so that the ophthalmoscope should be constantly in mind. The treatment consists of dieting, restriction of liquids, avoidance of tea, coffee, alcoholics and tobacco, enforcement of complete mental and physical rest, massage, tepid baths in a warm room, the Schott method, electricity and vibration. As regards drugs, Dutton begins with 2 grains (0.13 gm.) of calomel at bedtime, with a saline aperient before breakfast, repeated daily for a week; then he gives potassium iodid, 3 grains (0.20 gm.) three times a day and gradually increases the dose to physiologic effect, and then reduces it to 5 grains (0.32 gm.), with 3 drops of Fowler's solution, three times a day after meals. Potassium being irritant should not be too long continued. Other remedies are nitroglycerin, aconite in four-drop doses, sodium nitrate, the theobromin and caffein group of diuretics, digitalis, squills, potassium citrate, apocynum and jalap as indicated. Dutton advises all subjects of hypertonia to carry 3-drop perles of amyl nitrite.

Journal of Cutaneous Diseases, New York.

July.

81 *Dermolysis—An Undescribed Dissolution of the Skin. C. J. White.
82 Ichthyosis or Acanthosis—Which? W. W. Roblee, Riverside, Cal.
83 Case of Acne Agminata. W. B. Trimble, New York.

81. **Dermolysis.**—White proposes this name for a condition of the skin found in a Russian baker, who during his apprenticeship had to sleep in a low-ceiled room on top of the heated brick and mortar oven. The process was limited to the elbows and the suprapatellar regions of the thighs. The lesions varied from 3 to 10 mm., were cherry colored, round and dome-shaped, firm, rather tense and freely movable in the skin. White discusses the possible diagnoses, but all were discarded after full discussion at the Boston Dermatological Society. A nodule was excised and examined by Mallory's hematoxylin-phosphotungstic acid method (8 sections), hematoxylin-eosin (32 sections), eosin-alkaline methylene blue (8 sections), and acid orcein (7 sections). Clinically were found pea-sized, dome-shaped, cherry-colored papules, which apparently evolved into hitherto undescribed, flattened, muddy-white lesions, isolated or grouped around a relatively depressed, bluish-red, velvety center. These features were of long standing, developed originally on non-exposed areas of a boy's skin and had remained unassociated with all subjective symptoms. Histologically there were noted conspicuous epidermal changes; endarteritis; perivascular, perifollicular, and periglandular lymphocytic infiltration; basophilic collagen; collastin; general diminution of collagen and elastin, and, lastly, gradual disappearance of all these structures focally. In conclusion, he says: As histologically in colloid degeneration and often in senile skin we find basophilic collagen, collastin and a relative persistence of the cellular elements, etiologically the result of long-continued exposure to the action of light, heat and possibly cold, so here we find the same chemical microscopic changes due perhaps to the subjection of the skin, during the boy's apprenticeship, to the extraordinary and intimate exposure to heat while sleeping night after night on a glowing oven, and, in later years, to the possible further action of heat plus light in the recurring blasts from the open doors of the hot baker's ovens. And, furthermore, as we note endarteritis in chronic *x*-ray dermatitis, so here we find a similar pathologic change in a skin exposed by habit to intense light and heat.

Maryland Medical Journal, Baltimore.

June.

84 Growth of Our Knowledge of Infectious Diseases. J. H. M. Knox, Baltimore.

July.

85 Social Prophylaxis. Results Accomplished—The Outlook for the Future. P. A. Morrow, New York.
86 Epithelial Tumors of the Skin and Exposed Mucous Membranes. A. McGlannan, Baltimore.
87 *Physicians and Public Affairs. C. O'Donovan, Baltimore.

87. Abstracted in THE JOURNAL, May 16, 1908, p. 1633.

Journal of the Arkansas Medical Society, Little Rock.

June 15.

88 *Some Fallacious Notions Concerning Medical Organization. C. C. Stephenson, Little Rock.
89 *Getting Practice. Henry Thibault, Little Rock.
90 *Public Health, Education and Legislation. J. P. Sheppard, Little Rock.
91 *Some Problems of Childhood. H. P. Routh, Hackett, Ark.
92 *Sexual Hygiene. C. P. Meriwether, Little Rock.
93 *The Arkansas Surgeon. A. G. Dickson, Paragould.

88 to 93. Abstracted in THE JOURNAL, July 18, 1908, pp. 248-250.

The Journal of the Kansas Medical Society, Kansas City.

June.

94 *Kansas City Medical Society, Its Mission, Its Needs, and Its Purposes. J. E. Sawtell, Kansas City.
95 Colitis. Possible Anatomic Causes; Surgical Treatment; Report of Case. H. L. Snyder, Winfield, Kan.
96 *The Physician's Relation to Mental Healing Systems and Methods. S. S. Hilscher, Iola, Kan.

94. Abstracted in THE JOURNAL, May 30, 1908, p. 1828.
96. Abstracted in THE JOURNAL, May 30, 1908, p. 1823.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

July 25.

1 The Psychology of Success. T. C. Shaw.
2 *Inborn Errors of Metabolism. A. E. Garrod.
3 *Importance and Significance of Chemical Examination of Gastric Contents After a Test Meal; with New Method for Estimating the Ferment Activity of the Gastric Contents. W. H. Willcox.
4 *Motor Functions of the Stomach (a) in Normal Cases, (b) after Gastroenterostomy, as Demonstrated by *X*-Rays. H. M. Gray.
5 Intermittent Claudication, or Intermittent Limping, and Obliterative Arteritis, with Illustrative Cases. B. Bramwell.
6 Successful Removal of a Stone Weighing Two Pounds. O. Richards.
7 Diagnosis of Diseases of the Stomach and Intestines by *X*-Rays. C. J. Morton.
8 Ascites and Tumors of the Ovary. E. Emrys-Roberts.
9 The Individual Plasma. R. Fick.
10 Latah and Crime. W. Fletcher.

2. **Metabolism.**—Garrod, in the fourth Croonian Lecture, concludes his consideration of cystinuria, with the statement that we are far from being in a position to formulate a satisfactory theory of it. Before this can be done it will be necessary to accumulate many more data, and, above all, quantitative data, by patient investigation of individual cases. Finally he takes up pentosuria, with regard to which he concludes that the racemic arabinose of pentose urines is derived from some substance formed within the organism, and that glucose is not this parent substance. Neuberg has suggested that d. galactose is the substance, but Garrod considers the subject

and holds that no conclusive evidence is forthcoming to support this view. In pentosuria, also, he holds that much further patient research is necessary before our knowledge of this remarkable anomaly can be placed on a satisfactory footing.

3. **Gastric Contents.**—Willcox deals with the importance and significance of results obtained by a method of chemical examination of the gastric contents after a test meal, and he describes in detail a new method of estimating the ferment activity of the gastric contents. The test meal Willcox prefers is a pint of very weak China tea with a little milk and sugar, and a round of thin buttered toast, the contents of the stomach being drawn off in from an hour to an hour and a half later. He discusses the general appearance of the contents and the result of analysis as regards total acidity, hydrochloric acid, organic acid, mucin, sulphocyanids and ferment activity. Regarding the last he gives a summary of the coagulated egg-albumin test, the carmin fibrin test, Leube's method and Metts' method, and then describes a new method not hitherto published. It is based on the fact that the amount of rennin present in the gastric contents is usually proportionate to that of the pepsin. Gradually increasing quantities of filtered gastric contents are run from a graduated pipette into narrow test tubes (¾ inch in diameter, 5 in. long) containing 5 c.c. of fresh unboiled milk and heated in a water bath at 40 C. The minimum quantity of gastric contents to cause complete clotting, so that the contents of the test tube do not flow out on inversion, gives an accurate measure of the rennin activity. The author illustrates the method. The conditions in which he has used the investigation of the gastric contents in diagnosis are as follows: 1. Gastric ulcer and hyperchlorhydria; 2, gastric carcinoma; 3, mucous colitis; 4, stomach normal; 5, chronic gastritis; 6, gastric ulcer before and after gastroenterostomy, and in children; 7, congenital pyloric stenosis; 8, pyloric spasm (acid dyspepsia); 9, marasmus.

4. **Motor Functions of Stomach.**—This is a supplementary paper to Gray's paper in the *Lancet*, Feb. 22, 1908 (abstracted in THE JOURNAL, March 21, p. 996) for the purpose of illustrating the principles there laid down. He submits 14 radiographs demonstrating the points involved, and concludes: 1. The stomach is, naturally, not of the usually accepted shape. 2. It is an organ of two compartments, cardiac and pyloric, the division between these being a physiologic sphincter. 3. These two compartments act in great part independently. 4. During digestion the cardiac portion maintains to a great extent its saccular form, its distal part only being affected by visible peristalsis, while the pyloric portion is tubular and affected by strong peristaltic waves aloug its whole extent. 5. In order to maintain or to restore physiologic conditions so far as possible, the stoma in the operation of gastroenterostomy should be made in the pyloric tube. 6. He is inclined very strongly to doubt t[illegible] food prefers to pass through the pylorus rather than [illegible]ough the lateral stoma some time after gastroenterostomy has been done in cases in which there is no actual obstruction of the pylorus.

British Medical Journal, London.

July 25.

11 *Coxa Valga. A. H. Tubby.
12 Removal of Lymph Glands. R. Parker.
13 *Action of Chloroform Administered by Different Channels. D. N. Paton and Dorothy E. Lindsay.
14 Administration of Ether by the Open Method. G. H. Colt.
15 *Rectal Drainage in Pelvic Abscess Due to Appendicitis. B. Pollard.
16 *Method of Treating Fracture of the Femur in the Newly Born. J. Edmondson.
17 *Case of Aphasia During Whooping Cough. J. S. Sewell.

11. **Coxa Valga.**—Tubby defines the various terms used in connection with this condition and gives diagrammatic illustrations. He then considers the condition in its congenital and acquired forms, with illustrative cases. He says that, arguing from the analogy of coxa vara, in which the deformity is readily remedied by the removal of a wedge of bone with its base outward in the subtrochanteric region, it ought to be the right thing in coxa valga to remove a wedge with its base inward. This, however, may be a troublesome proceeding, on account of the immediate proximity of the vessels, particularly the internal circumflex and superior perforating arteries. Galeazzi has obtained good results in his cases by performing a linear osteotomy well outside the joint and at the base of the neck. He is convinced that in all anomalies of direction of the neck the proper site of operation is here, and not in the subtrochanteric region. He has further pointed out that if the section is made at the spot indicated the pull of the great muscular masses, whose tendons are inserted into the great trochanter, is to drag the shaft of the femur upward and lessen the angle of inclination. Afterward he applies sufficient traction to the leg to prevent a great displacement of the fragments without limiting the gradual ascent of the trochanter. By means of *x*-ray photographs he follows, step by step, this upward movement of the trochanter and stops it at the proper moment by means of a firm plaster-of-Paris spica. According to his figures, his treatment is successful. He points out that Nathaniel Allison divided the bone just below the trochanter, and remedied the external rotation and abduction and caused the angle of inclination to be diminished. Tubby gives the preference to Galeazzi's method, provided that the ascent of the trochanter is carefully watched and arrested at the right moment.

13. **Chloroform Administration.**—Paton and Lindsay refer to late poisoning by chloroform and endeavor to throw light on the etiology of the condition by a study of the changes produced in the protein metabolism of the body, with special reference to any interference with hepatic metabolism. Such an interference is indicated by disturbances in the distribution of the waste nitrogen excreted in the urine, and chiefly by a decreased conversion of ammonia into urea; hence the proportions of these two constituents have been more especially studied, although in the later experiments the nitrogen in uric acid and in creatinin also has been determined, as well as the sulphur in the oxidized and in the non-oxidized condition. The authors detail the results of their experiments on dogs, with the administration of chloroform by inhalation, by the stomach and by the hypodermic route, and discuss its assimilation and elimination by the blood. The rarity of late chloroform poisoning, they say, seems to be due to its rapid elimination and the absence of fixation in liver tissue.

15. **Pelvic Abscess Due to Appendicitis.**—Pollard asserts that in dealing with a well-localized appendix abscess in any situation it is, in his opinion, unwise to do more than is absolutely necessary for the efficient evacuation and drainage of the abscess. In these cases the appendix should not be removed at the time the abscess is drained, for its complete removal involves the breaking down of limiting adhesions and the risk of peritoneal infection. Holding this view, he is very averse to removal of the appendix in the original operation for pelvic abscess when this is done through an abdominal incision, and so he is not deterred from using the rectal route on account of the impossibility of removing the appendix through it.

16. **Fracture of Femur in New-born Infants.**—Edmondson has had two such patients whom he treated successfully as follows: The thigh was flexed on the abdomen with the knee extended, the foot naturally coming to the opposite side of the body. The triangular interval between the front of the leg and the abdomen and thorax was firmly packed with lint folded into a suitable shape. A narrow binder was then passed round the child's body and round the back of the leg extending from a little above the knee to the ankle, leaving the seat of fracture and the foot uncovered. This was readjusted occasionally when required, and at the end of three weeks removed altogether; perfect union had occurred.

17. **Aphasia During Whooping Cough.**—Sewell reports the case of a boy, 6 years old, who was previously able to talk well, in whom complete aphasia occurred during an attack of whooping cough with bronchopneumonia and lasted five weeks. Then the child began to make inarticulate noises, and six months later the aphasia and the accompanying right-sided paresis had entirely disappeared.

Medical Press and Circular, London.

July 22.

18 *Intestinal Intoxications. W. L. Brown.
19 Diet in Infancy and Childhood. J. S. Wallace.
20 Administrative Control of Anthrax. F. W. Eurich.
21 *Case of Pneumonia Treated by Continuous Inhalation of Oxygen. G. Stoker.

18. **Intestinal Intoxications.**—Langdon Brown says that gastrointestinal intoxication may conceivably occur from: 1, Inorganic poisons, e. g., lead; 2, organic poisons, e. g., cyanids; 3, intermediate products of digestion, e. g., peptones, purins; 4, products of putrefaction, e. g., indol; 5, products of abnormal pathogenic bacteria present in the intestine. The first two are irrelevant to his paper. He discusses the remaining three individually and at length, and draws the following conclusions:

1. There is no satisfactory proof of intoxication by the ordinary disintegration products of digestion.

2. Putrefactive processes mainly affect the aromatic, i. e., benzin groups of the protein molecule; there is no evidence that these can lead to symptoms of intoxication. Occasionally the sulphur in the protein molecule appears to be able to cause chemical changes in the hemoglobin, with resulting cyanosis. But as sulphur must always be set free in the putrefactive changes ordinarily occurring, we shall probably find that here, too, some abnormal bacterial agent is at work.

3. Careful examination has failed to reveal the presence of ptomains as the cause of any of these chronic intoxications.

4. It is clear that it is often difficult, if not impossible, to draw a hard and fast line between an infection and an intoxication in these cases. Hamilton's researches provide us with an explanation. The microbe may sometimes be able to establish itself in the blood stream, thereby producing an infection, while sometimes it is rapidly destroyed by the blood, but has been able, nevertheless, to disseminate its soluble toxins in sufficient quantity to produce definite symptoms.

Brown believes that we shall ultimately be able to refer all the real intestinal intoxications to the presence of actively pathogenic bacteria among the ordinary saprophytes of the intestine. He summarizes the points of treatment in a case of proved intestinal intoxication as follows: 1. A simple diet in which milk (reinforced with lactic acid if desirable) plays a large part. 2. Ordinary regulation of the bowels, without any drastic purgation. 3. Use of naphthalen tetrachlorid as an intestinal antiseptic. 4. Attention to septic conditions of the mouth. 5. Identification of the microbe responsible and preparation of the appropriate vaccine.

21. **Oxygen in Pneumonia.**—Stoker discusses the inhalation of oxygen in pneumonia and insists that to obtain the best results from the continuous inhalation of oxygen in pneumonia, etc., it is necessary to begin as soon as the disease has declared itself. The inhalation should be continuous, night and day, and carried out according to the method described by him. It should be continued as long as any symptoms remain. It is useless and worse than useless to wait until the patient is cyanosed and moribund before administering oxygen. Though it may give some temporary relief, it is then too late to save life.

Clinical Journal, London.

July 22.

22 Case of Hemophilia. D'A. Power.
23 Acute Abdominal Lesions of Pelvic Origin. T. G. Stevens.
24 Enchondroma in the Tendon Sheath of the Finger. R. R. Walker.

Journal of Tropical Medicine and Hygiene, London.

July 15.

25 *Flies as Carriers of Contagion in Yaws. A. Robertson.
26 *Health in Tropical Countries. J. F. Toomer.
27 Climate and Diseases of Brazil. A. Peixoto.

25. **Flies and Yaws.**—Robertson reports an experiment from which he concludes that the house fly can carry the virus of yaws on its limbs and inoculate it into any abraded surface in a non-immune, and that by washing the bodies of yaws patients twice daily with warm water and smearing the papules with mercurial ointment the fly can be prevented from carrying infection. Experience at the Jarawa Central Hospital, where not a single case has occurred for three years, although it is only 50 yards distant from the yaws compound, proves this.

26. **Health in Tropics.**—Toomer gives a series of simple health rules and quotes some of the sanitary regulations in the Canal Zone.

Annales de Dermatologie et de Syphiligraphie, Paris.

June, IX, No. 6, pp. 321-384.

28 Frequency of the Microsporum Canimum or Lanosum in Man and in the Dog. (Fréquence du microsporum canimum ou lanosum chez le chien et chez l'homme.) R. Sabouraud, A. Sulz and F. Saufran.

Annales de Gynécologie et d'Obstétrique, Paris.

July, XXXV, pp. 386-448.

29 *Extrauterine Pregnancy with Healthy Child at Term. (Grossesse extra-utérine à terme.) Potocki.
30 *Pregnancy and Childbirth with Congenital Mitral Stenosis. (Grossesse et accouchement dans les rétrécissements congénitaux de la valvule mitrale.) Audebert and H. Dupont.
31 Obliteration of the Tube after Resection. (Oblitération de la trompe après résection.) L. Rousse.

29. **Tubal Pregnancy at Term.**—Potocki delivered a healthy child in an extrauterine pregnancy without much loss of blood by double clamping the utero-ovarian artery and the uterine artery at its termination in the cornu of the uterus. The child has developed normally and is now 3 years old. The false labor was characterized by intermittent pains coinciding with contractions of the uterus, which relaxed afterward as in normal labor. The large tumor, however, containing the fetus did not change its consistency, only the uterus in front of the tumor. It is evident that the uterus begins to contract when the ovum is ripe for expulsion, whether it is inside or outside the uterus. The fetal heart-sounds were inaudible, but active movements were evident. The cyst should always be opened at the farther end from the placenta, and this can be determined by the maternal souffle. The vessels of the placenta in tuboabdominal pregnancy at term receive blood only from the vessels of the tube. In more than a hundred cases of ectopic pregnancy he has never encountered a case in which the placenta was not located on the tube, and hemostasis by the technic described is bound to be successful.

30. **Pregnancy in Congenital Mitral Stenosis.**—Audebert and Dupont report the cases of 5 women who have passed through a total of 13 pregnancies, including 10 at term, and without mishap, notwithstanding congenital mitral stenosis. They review 10 other cases from the literature, with a total of 43 pregnancies, 38 at term. Only one of the 15 women died, and the fetal mortality was only 7.5 per cent. Their experiences demonstrate anew that congenital lesions of the mitral valve do not have the grave prognosis in respect to pregnancy which accompanies acquired mitral defects. They consent to the marriage of patients with congenital mitral stenosis, and advise the women to nurse their infants, believing that the valvular trouble is merely the result of arrested development, which age and the power of adaptation to function will finally compensate in most cases and sometimes entirely correct.

Annales de l'Institut Pasteur, Paris.

June, XXII, No. 6, pp. 465-560.

32 Anaphylaxis and Toxogenins. C. Richet.
33 Mechanism of Anaphylaxis in Respect to Horse Serum. Besredka.
34 Problem of Etiology of Cancer. Borrel.
35 Microscopic Diagnosis of Human Trypanosomiasis. G. Martin and Leboeuf.
36 Biology of Bacillus of Epizootic Abortion. (Bacille de Bang et sa biologie.) J. Nowak.

Annales de Médecine et Chirurgie Infantiles, Paris.

July 15, XII, No. 14, pp. 469-504.

37 Retention of Urine in Typhoid Fever in Children. E. Gaujoux and V. Ros.
38 Caustic Stenosis of Esophagus Cured by Esophagoscope. Gulsez.

Bulletin de l'Académie de Médecine, Paris.

July 7, LXXII, No. 27, pp. 1-47.

39 "Enamel Pearls." (Perles d'émail.) L. Malassez and Galippe.
40 *Causes of Decline of Mortality from Tuberculosis in Berlin, London, New York, Vienna and Paris in Last Twenty Years. Armaingaud.

July 15, No. 28, pp. 49-75.

41 Frequency of Tuberculosis in Employés of Sugar Refineries. (Raffineurs et tuberculose.) S. Bernheim, Dieupart and Netter.
42 *Toxic Origin of Arteriosclerosis. (Causes, la nature et le traitement de l'artério-sclérose.) H. Huchard.

40. **Causes of Declining Tuberculosis Death Rate.**—Armaingaud's long statistical study concludes by ascribing to the progress of private and public hygiene the declining tuberculo-

sis mortality, but he adds that the reduction is much less in Paris than in the other cities investigated. The Academy adopted a resolution calling the attention of the authorities to this fact and urging them to send a commission to study conditions in other large cities and to suggest measures for improvement at Paris—the commission to include members of parliament and of the Academy, of the National Board of Public Health and of the permanent Antituberculosis Commission.

42. **Arteriosclerosis.**—Huchard deprecates the practice of defining a disease by the anatomic findings rather than by the clinical course. This applies especially to arteriosclerosis, the clinical course of which is dominated by toxic symptoms causing fluctuation in the arterial tension, whence the absolute necessity for treatment addressed to the kidneys and other means of getting rid of the toxins. He remarks that there are many contradictory statements in regard to this disease, but few contradictory facts; Scientific Truth is the daughter of Time, he quotes. In looking over 15,000 cases of arteriosclerosis in his practice, he has analyzed the data in 1,835 and found a history of gout in 323, of rheumatism in 332, of syphilis in 209, of abuse of tobacco in 181, of infectious diseases in 67, of diabetes in 48, of alcohol in 27, of malaria in 14, the menopause in 12, and moral and nervous causes in 19. In 555 cases he was unable to discover any special cause for toxic action. He remarks that the dyspnea with angina pectoris is due to the kidneys, the angina being the work of the coronaries, while the dyspnea comes from the kidneys, and can be promptly arrested by an exclusive milk diet.

Presse Médicale, Paris.

July 11, XVI, No. 56, pp. 441-448.

43 *Overdistention and Overwork of Stomach when Food is Eaten too Rapidly. (Surdistention et surtravail gastriques d'origine tachyphagique.) L. Jacquet and Debat.

July 15, No. 57, pp. 449-456.

44 *Thyroid Rheumatism. (Rhumatisme chronique, progressif et deformant, par insuffisance thyroidienne.) E. Sergent and P. Ménard.

45 Light-Colored Liver Cells. (Etat clair des cellules hépatiques.) L. Bernard and L. Laederich.

43. **The Evil Harvest of Tachyphagia.**—Jacquet and Debat say that the pathologic harvest from rapid eating is much larger than is generally realized. Every one has a vague idea that it is injurious to eat too rapidly, but tables and skiagrams are given here which show the direct evil results from it, and the indirect injury from sympathetic reflexes. Their skiagrams show that a meal eaten in forty-five minutes causes a natural distention of the stomach, but the organ rapidly recedes to its normal size. When a similar meal, with the same amount, weight and composition of the food, is eaten in from twelve to fifteen minutes, it causes greater distention, and this distention persists to some extent. It is still pronounced at the end of five hours. The stomach tries to make up for the lacking fine division of the food from inadequate mastication, and in order to do this the stomach functions are overexerted, the local temperature and the blood pressure rise, the entire functional strain on the organ being abnormally high. The stomach in trying to do the work that should have been done in the mouth does it very inefficiently and at tremendous sacrifice. Recent test-tube research confirms the assumption that fine division of the food is by far the most important factor in its digestion; the chemical composition, etc., being comparatively subordinate. This overexertion imposed on the stomach three times a day is the indirect cause, by reflex action, they say, of a notable part of the ills to which flesh is heir. They use the term "tachyphagia" and "bradyphagia" to designate habitual fast or slow eating. The former is pathogenic in many hitherto unsuspected directions, and its suppression, they find, has a preventive and curative action in unsuspected ways.

44. **Deforming Rheumatism from Thyroid Insufficiency.**—Sergent and Ménard describe a form of chronic, progressive and deforming rheumatism which seems to be the effect of defective or perverted functioning of the thyroid. It is evidently a primary affection, most frequent in women, especially in those who have had numerous pregnancies or dysmenorrhea. There is frequently a history of acute articular rheumatism. Vincent has lately pointed out the involvement of the thyroid during acute articular rheumatism, with tumefaction of one or both lobes and tenderness of the gland. He calls this the "thyroid sign," stating that it is the result of exaggerated functioning of the gland, and that it is observed, although to a less extent, in most infectious diseases. It is absent in the very mild and in the very severe cases. In acute articular rheumatism, when the thyroid sign is absent, the disease usually is extremely protracted. In this case thyroid treatment shortens the course of the disease. The thyroid sign is generally transient, but it may persist and increase and terminate in exophthalmic goiter. They have recently reported some cases of this sequence. A thyroid origin for deforming rheumatism is suggested by concomitant symptoms suggesting a tendency to myxedema, such as desquamation, hypertrophy of the nails, sclerodermia and psoriasis, edematous infiltration of the tissues, somnolency and headache, and exacerbation of these symptoms with the joint attacks. The most characteristic feature of the trouble is that it is benefited by thyroid treatment. Deforming rheumatism is generally rebellious to medication, and the improvement under thyroid treatment confirms the theory of thyroid origin. They advise a trial of thyroid treatment in every case of this disease, suspending it at the least symptom of intolerance, examining the urine every two or three weeks, and noting the quantity every day and the blood pressure and pulse every second day, and taking the weight every week. Thyroid treatment is contraindicated in active tuberculosis and in heart disease. If the pulse reaches 100, the blood pressure drops to 14, the amount of urine surpasses two liters, and the nitrogen proportion falls below 80 per cent., it is best to suspend the thyroid treatment for a few days. Iodin may also prove effectual. Among the cases reported is that of a woman of 28 given Roentgen treatment for excessive growth of hair on chin and neck. Under the influence of this treatment, chronic deforming rheumatism developed and signs of a tendency to myxedema. Suspension of the treatment and administration of thyroid extract restored conditions to normal. Rheumatism from thyroid insufficiency has a slow and progressive evolution, subject to remissions or even spontaneous retrogression. In one case all the symptoms vanished as exophthalmic goiter developed.

Semaine Médicale, Paris.

July 15, XXVIII, No. 29, pp. 337-348.

46 Anemia from Deficient Production of Blood. (Les anémies par anhématopoïese.) C. Aubertin.

July 22, No. 30, pp. 349-360.

47 The Lipoids in Hemolysis. L. Ambard.

Archiv für klinische Chirurgie, Berlin.

LXXXVI, No. 3, 575-857. Last indexed July 25, p. 355.

48 *Gastroduodenoscopy and Diaphanoscopy. T. Rovsing.

49 Hirsch Technic for Weight-bearing Stumps. (Erzielung tragfähiger Amputationsstümpfe durch Nachbehandlung nach H. Hirsch im japanisch-russischen Kriege 1904-05.) V. Hashimoto and M. Saito.

50 *Pathogenesis of Cholelithiasis. A. Exner and H. Heyrovsky.

51 *Operation for Cleft Palate by Suturing over Plates. (Operation der Gaumenspalte mittelst Plattennaht.) A. Winternitz.

52 *Lightning Treatment of Cancer. (Blitzbehandlung der Krebse.) V. Czerny.

53 *Endemic Deforming Osteoarthritis in Eastern Siberia. E. Beck.

54 *Operative Treatment of Embolism of Pulmonary Artery. F. Trendelenburg.

55 *Stretching the Prostate. (Prostatadehnung.) C. Bayer.

56 *Ganglioneuroma. H. Braun.

57 Case of Aleukemic Lymphadenia of Endotheliomatous Nature. G. Pariavecchio.

58 *Permanent Cure of Mammary Cancer. (Dauerheilung des Brustkrebses.) Steinthal.

59 *Injury of Nerves During Extirpation of Glands in the Neck. (Nervenläsionen bei Drüsenexstirpation am Halse.) M. Westergaard.

60 *Cauterizing Gastroenterostomy. Credé.

61 Operative Treatment of Fractures and their Consequences. (Operative Behandlung der Knochenbrüche.) S. Peltesohn.

48. **Improved Direct Visual Inspection of the Stomach.**—Rovsing applies the gastroscope and diaphanoscopy when the stomach has been exposed by a laparotomy. He uses a gastroscope like a very large cystoscope, with a passage for blowing in air, of which he gives an illustration. He reviews the find-

ings in 24 cases, especially comparing the diagnosis before the operation, the diagnosis after external inspection and palpation of the stomach after it has been exposed, and, finally, the diagnosis after diaphanoscopy and again after the gastroscope has been introduced through a buttonhole into the stomach. The first stage in the investigation is the diaphanoscopy; the gastroscope is introduced through a buttonhole in the stomach wall, which is then sutured airtight around it, and the stomach is inflated with air blown in through the gastroscope. He describes and illustrates the characteristic findings, which are instructive. This procedure shows conditions much better than direct visual inspection. It reveals the source of a hemorrhage which otherwise might escape detection, as he shows by several examples. With care there is no danger of infection, he declares, while for differentiating purposes this technic is unsurpassed.

50. **Pathogeny of Cholelithiasis.**—Exner and Heyrovsky report research from Hochenegg's clinic which demonstrates that bacteria have a decomposing action on the bile salts with precipitation of cholesterin. This is the nucleus for the gallstone.

51. **Plates for Suture of Cleft Palate.**—Winternitz gives an illustrated description of the method of closing cleft palate by taking the sutures over silver or aluminum oval plates, 1 cm. long by 4 mm. wide. As children are more inclined to catarrh in the winter, he always performs this palate operation in the summer, and has the teeth carefully attended to beforehand.

52. **Lightning Treatment of Cancer.**—Czerny's article was presented at the German Surgical Congress in April, and relates his experiences with the Keating-Hart method of fulguration or lightning treatment of cancer. He thinks it has opened a new field for treatment not only of cancer, but also of lupus, tuberculous ulcers and possibly also of goiter, enlarged prostate and hemorrhoids, besides nevi, etc. He regards it as a powerful, easily regulated means for destroying cancer tissue, able to cure in so far as the malignant disease is accessible to the knife, the curette and fulguration. Unfortunately, the destruction of the cancer cells is not so complete that it devitalizes them entirely. Mouse cancers, although apparently destroyed by the fulguration, yet retain their vitality enough for transplantation, unless the fulguration was carried to the point of complete desiccation—this shows the limits of the treatment.

53. **Endemic Deforming Osteoarthritis.**—Beck describes an affection of the bones and joints which he encountered in from 6 to 46 per cent. of the inhabitants of the villages in the Transbaikal district in Siberia. He found 1,009 persons in 11 villages, with a total population of 3,153. Children between 8 and 13 were principally affected, and he believes that the drinking water is responsible for the affection which is increasing in frequency.

54. **Operative Treatment of Embolism of the Pulmonary Artery.**—Trendelenburg describes his theoretical premises and his technic for the operation which he has successfully applied in the clinic.

55. **Stretching of the Prostate.**—Bayer has been applying to the prostate the principles of Réamier's method of stretching the sphincter in cases of painful spasmodic contraction. He describes a little instrument he has devised for the purpose, a curved metal catheter something like a lithothriptor, with the difference that the halves of the beak spread apart as the thumbscrews turn. The prostate bears this stretching without harm, and no anesthetic is required. In the four cases reported the ideal restoration of the bladder functioning shows that the dilatation of the contracted prostatic part had a large share in the success. He advises this dilatation after failure of other measures in chronic prostatitis and enlargement of the prostate, with retention and tenesmus without threatening complications. His method of sagittal dilatation cures the kinking of the posterior wall of the neck of the bladder.

56. **Ganglioneuroma.**—Braun reviews the literature on the subject of these tumors—a total of 26 cases—and reports a case from his own experience, with successful extirpation. He thinks that it is the first case on record in which the abdominal aorta was successfully sutured with a circular suture.

58. **Permanent Cure of Mammary Cancer.**—Steinthal states that 44 patients have been permanently cured out of 142 on whom he operated for mammary cancer from 16 to 3 years ago. He tabulates this material under various headings. The size of the tumor does not affect the outcome decisively, but he mentions that in none of the permanently cured patients had the tumor grown to the skin and tissues below. A family tendency was apparently evident, and in these cases the cancer seemed to be especially malignant. Good results can be counted on only in those cases with slow growth in which the tumor is no larger than a plum, and is still confined to the gland.

59. See abstract in THE JOURNAL, April 18, 1908, page 1315.

60. **Cauterizing Gastroenterostomy.**—Credé gives an illustrated description of a method of gastroenterostomy which he has applied in 8 cases. He believes its simplicity and harmlessness commend it, especially in cases of incipient carcinoma of the pylorus. Just before tying the suture, the actual cautery is applied to the stomach wall, cauterizing through to the mucosa without opening the latter. The intestine is treated in the same way, and the two defects thus made are coaptated. The great advantage of this method is that neither the stomach nor the intestine is actually opened. The suture is simple and stout, and the seared tissues grow together firmly over a comparatively large area. He claims also that the technic is simple and requires less time than others, while it excludes all danger of the vicious circle, etc.

Berliner klinische Wochenschrift.

July 20, XLIV, No. 29, pp. 1345-1388.

62 Postscarlatinal Gangrene of the Skin. (Hautgangrän bei Scharlachrheumatoid.) Heubner.
63 Antitryptic Power of Human Blood Serum, Especially in Cancer Patients. (Antitryptische Kraft des menschlichen Blutserums.) L. Brieger and J. Trebing.
64 Diagnostic Puncture of Brain. (Hirnpunktion.) F. Krause.
65 *Scopolamin-Morphin Anesthesia. (Morphium-Scopolamin-Narkose.) B. Korff.
66 Roentgen Treatment of Oily Seborrhea. H. E. Schmidt.
67 Discovery of Typhoid Bacilli in Cerebrospinal Fluid in Typhoid. (Auffindung der Eberth-Gaffky'schen Bacillen in der Cerebrospinalflüssigkeit bei Typhus abdominalis.) L. Silberberg.
68 Preventive Medicine on an Extensive Scale. (Seuchen und Rettungswesen.) S. Alexander.
69 Guaiac Test for Blood. (Guajakprobe für Blut.) K. Schroeder. Id. O. Schumm.
70 *Surgical Treatment of Exophthalmic Goiter. (Chirurgische Behandlung der Basedow'schen Krankheit.) A. Hildebrandt.

65. **Scopolamin-Morphin Anesthesia.**—Korff is the father of this technic, and he here discusses its present status. He maintains that this method is peculiarly adapted for the longer and more serious operations, citing in particular Kreuter's experience in a hundred cases in which he made two injections, instead of three, completing the operation under chloroform, with no postoperative pneumonia or bronchitis. Korff is convinced that several anesthetics, in small amounts, are less toxic and do less harm than a single one in large doses, as in simple ether or chloroform anesthesia.

70. **Surgical Treatment of Exophthalmic Goiter.**—Hildebrandt discusses the history and ultimate results of surgical treatment of exophthalmic goiter. His figures show that the mortality of the operation is no greater than that of the disease under internal treatment alone. Internists and surgeons must work with courage side by side in this promising field.

Correspondenz-Blatt für Schweizer Aerzte, Basle.

July 15, XXXVIII, No. 14, pp. 449-480.

71 *Etiology and Treatment of Vomiting of Pregnancy. (Schwangerschaftserbrechen.) E. Schwarzenbach.
72 Gangrenous Appendicitis and Early Operation. T. Kocher. Commenced in No. 13.
73 Roentgen Treatment. E. Sommer.

71. **Treatment of Vomiting of Pregnancy.**—Schwarzenbach reports success in the treatment of pernicious vomiting of pregnancy based on the assumption that the supposed pregnancy toxin is eliminated in the stomach, as is the case with morphin. In the morning the fasting stomach must contain

unusually large amounts of the poison, and it must exert its toxic action most intensely when there is nothing in the stomach to dilute or absorb it. Lavage of the stomach on first waking is the ideal, and this can be accomplished by copious drinking. If the ingested fluid is vomited, the stomach is thus prepared for breakfast, part of which the patient can generally retain. In order to stimulate the appetite he suggests dishes outside the ordinary menu, merely avoiding greasy and indigestible articles, but even these may at times be permitted if there is longing for them. More or less of this food is retained, and the vicious circle is broken. The patients are taught never to let the stomach be empty long. Something must be taken every two or three hours, always before sleeping and during the night if the patient wakes spontaneously, and always the first thing in the morning. As in case of seasickness, the horizontal position is favorable, especially in the morning, and everything that works against anemia of the brain, which has such an influence on the tendency to vomit. Reflex action from the stomach may also induce or aggravate the anemia in the brain. After apparently complete cure he has observed recurrence only in a few instances when, for some casual reason, the patient went unusually long without eating. He adds that those who ascribe his success to pure suggestion must at least acknowledge that this method is harmless, simple and cheaper than institutional treatment.

Deutsche medizinische Wochenschrift, Berlin.

July 16, XXXIV, No. 29, pp. 1257-1296.

74 To Obtain Typhus Toxin with Lecithin, and its Immunizing Action. (Gewinnung von Typhustoxin durch Lecithin.) R. Rassenge.
75 Specific Treatment of Pulmonary Tuberculosis. Ritter.
76 Marmorek's Serum. P. Glaessner. Id. F. Köhler.
77 Pancreatic Ferments in Therapeutics. (Trypsin und Amylopsin.) A. Pinkuss.
78 *Experiences with Injuries from Lightning and Electricity. (Verletzungen durch Blitz und Elektrizität.) Pfahl.
79 *Surgical Treatment of Sciatica. (Chirurgische Behandlung der Ischias.) A. Pers.

78. Electric Accidents.—Pfahl has had occasion to examine nine victims of electric accidents. All but three had been struck by lightning. In all the accidents from lightning or from a very powerful electric current, unconsciousness was observed, of longer or shorter duration. Organic injury was evident in every case, and in all the electric accidents there were functional nervous disturbances. In five of the nine victims the eyes were injured; in one case detachment of the retina in one eye followed. He warns of the urgent necessity for examination of the eye by an ophthalmologist as soon as possible after injury from lightning or any form of electricity. The German Imperial Council of Health has issued a guide for first aid in electric accidents, which he recommends, and he cites recent German legal decisions to the effect that accidents from lightning, in the open air or in buildings, affecting a person at his work, are injuries calling for an indemnity if he is insured against industrial accidents, whether the circumstances favor attraction of the lightning or not.

79. Surgical Treatment of Sciatica.—Pers states that he has treated 47 patients with sciatica of from a few months to 45 years' duration, including 13 who had long been bedridden on this account. His treatment is based on the assumption that the trouble is the result of inflammation around the nerve or resulting adhesions. Loosening the inflamed nerve arrests the inflammation, and detaching the adhesions removed the conditions responsible for the pain. In every case—whether the sciatica was of recent or very old development—the patients awoke from the anesthetic entirely freed from their old pains and disturbances. In the 42 cases free from complication, recurrence was observed in 3 instances, but it yielded to a repetition of the neurolysis. He advises this treatment for every case of sciatica rebellious to ordinary measures. He exposes the nerve at its emergence from the sciatic foramen, and runs his finger under the nerve, mobilizing the parts that are found pink, and the adhesions, working from above downward. The nerve must be inspected at once to see if it is pink before the manipulations have induced hyperemia. The benefit can be regarded as constant and permanent—the few recurrences were undoubtedly the result of incomplete releasing of adhesions. The inflammation and adhesions may develop anywhere along the course of the nerve, but their most frequent site is at or near its point of emergence.

Jahrbuch für Kinderheilkunde, Berlin.

July 4, LXVIII, No. 1, pp. 1-136.

80 Behavior of Child's Organism in Response to Foreign Albumin, and its Ability to Produce Antibodies. (Verhalten des jugendlichen Organismus gegen artfremdes Eiweiss.) L. Moll.
81 *Physical Determination of Enlarged Bronchial and Mediastinal Glands. (Physikalischer Nachweis vergrösserter Bronchial- und Mediastinaldrüsen.) M. Nagel.
82 *Rheumatism as After-affection of Chorea. (Rheumatismus als Nachkrankheit der Chorea minor.) E. Ferraris-Wyss.

81. Physical Signs of Enlarged Bronchial and Mediastinal Glands.—Nagel gives an illustrated description of various methods of diagnosing enlarged glands in the chest, based on the literature and considerable clinical and anatomic research. Among the chief signs are the loud tracheal breathing, audible between the first and fourth thoracic vertebræ, and the bronchial breathing sounds over the manubrium; palpation findings, especially tenderness to pressure of the spinous processes and Neisser's sound percussion. The sound is introduced into the esophagus and inflated, with tests of the tenderness of the swollen bronchial glands. Inspection frequently shows distention of the visible veins in the neck and upper chest, from hindrance of the blood stream passing into the superior vena cava or into the innominate artery. Roentgen examination is also useful in diagnosis of this condition, as also percussion of the spine. The latter gave positive findings in 14 out of 26 children with enlarged bronchial glands, the results being confirmed in 7 cases by Roentgen examination. In another group of 50 children with enlarged bronchial glands, percussion of the spine gave positive findings in 16. Injection of paraffin to simulate enlarged bronchial glands in a cadaver gave exactly similar findings. Dulness over the fifth, sixth and seventh vertebræ may be produced by tumors as well as by enlarged glands. This spinal dulness may also be induced by a mitral defect, but the dulness in this case is lower than with swollen glands.

82. Rheumatism as an After-Affection of Chorea.—Wyss studied 51 cases of chorea minor at Zurich, 1874-1907. In 41, that is in 80.4 per cent., a certain connection between chorea and acute articular rheumatism or endocarditis was evident, either in the patients themselves or in their parents, brothers or sisters. Rheumatism had preceded the chorea in 16 of the 51 children, that is in 31.3 per cent., while rheumatism followed the chorea later in 40 per cent. of the 35 children whose later history was known. Endocarditis was observed at the time or later in 54.3 per cent. of the 51 choreic children. He calls chorea, rheumatism and endocarditis the three acts of a single drama.

Medizinische Klinik, Berlin.

July 19, IV, No. 29, pp. 1093-1136.

83 *Roentgen Detection of Incipient Pulmonary Tuberculosis. (Wert der Roentgendiagnostik der Frühtuberkulose der Lunge.) P. Krause.
84 Balneotherapy in Ear Affections. (Indikationen und Kontraindikationen für balneotherapeutische Massnahmen bei Erkrankungen des Gehörorgans.) O. Brieger.
85 Results at Hochenegg's Clinic of Operations on Biliary Passages. (Resultate unserer Operationen an den Gallenwegen.) R. Bachrach.
86 *Ankylosis of the Jaws. (Ankylosis mandibulae.) F. Kirstein.
87 Technic of Peroral Intubation. F. Kuhn.
88 Atropin in Treatment of Incipient Myopia. (Atropinkuren bei Kurzsichtigkeit.) Schultz-Zehden.
89 *Etiology of Asthma in Children. A. Stegmann.
90 Unreliability of Complement-binding Reaction for Diagnosis, Especially of Syphilis. H. Much. Commenced in No. 28.

83. Roentgen Diagnosis of Incipient Apical Tuberculosis.—Krause presented this article at the German Roentgen Congress at Berlin last spring. He states that the *x*-rays show apical infiltration as much more extensive than would be supposed from the percussion findings. When the percussion findings are negative or dubious, fluoroscopy or, better still, a skiagram will frequently reveal an apical process. Simple catarrhal processes in the early stages cast no shadow. When long protracted, the apex may not grow light during inspiration, and a skiagram will sometimes reveal an incipient apical process which escapes detection by other means. The apex

may be abnormally high, but this has differential value only with a difference of from 1 to 1.5 cm. The width of the apex has not yet been studied with the *x*-rays enough to be applied in diagnosis. Ossification of the first costal cartilage shows up well in a skiagram, and may be accepted as a sign of incipient tuberculosis in Freund's sense. The apex does not grow lighter during inspiration as in health. The movement of the diaphragm is sometimes defective, although restriction of its movements on the affected side can not be accepted as a special symptom. All this applies only to adults. In children the apical findings are generally negative; but all the more important is the finding of changes in the shadow cast by the hilus and bronchial glands enlarged by induration, caseation, calcification, and processes of infiltration in the vicinity of the hilus and bronchi. Mixed infection from the pneumococcus frequently casts a shadow as of central pneumonia, but the *x*-rays show the process slowly progressing after defervescence, and a few weeks later percussion and auscultation may reveal its tuberculous nature.

86. **Ankylosis of the Jaw.**—A young man fell on his chin and in a few days the movements of the lower jaw were limited and in the course of years complete bilateral ankylosis developed. Kirstein reports the case and reviews the literature, citing a total of 118 cases, 34 of traumatic origin. In operating, preparations must be made, he says, for eventual tracheotomy. The results of operation have been satisfactory, although recurrence has been observed in 12 out of 103 operations.

89. **Asthma in Children.**—Stegmann is a neurologist and he reports three cases of severe asthma in children, from 5 to 9 years old, in which he succeeded in curing the asthma and enabling the children to develop a normal physical and mental life. In all these cases, as in others of which he knows, the mothers were extremely nervous and anxiously solicitous to protect the child from catching cold. Two were only children, and the grandmothers suffered from asthma. He ascribes the first attack in one case to the peculiar suffocating odor of feather beds as used in the rural district where the child was visiting for the first time. When the first attack occurred and the diagnosis of asthma had been made and its incurable nature discussed, or if the child had noted the anxiety and depression of the parents, the foundation was laid for the perpetuation of the nervous trouble. In these three cases the children were under constant medical care for years, and incredible precautions were taken against their "catching cold" and exposing themselves to infectious influences. In treatment he found the essential factor to be the treatment of the parents, that is, to tranquilize them and give the child peace. This was most rapidly accomplished by hypnosis. After the first sitting the attacks of asthma subsided, and the children were then released from the solicitous precautions previously systematically enforced, and the parents could sleep at night. This alone would have justified the psychic treatment, even if it had not benefited the asthma; he was surprised at the favorable influence on the asthma from the suggestion. The hypnosis treatment, he believes, is only of subordinate importance for the final results. It served mainly to tranquilize the patient and the parents at once, and to make the child more amenable to the medical suggestion. He adds that this psychic treatment is required fully as much in cases with an organic element as in those without. He reports his cases in detail, as he thinks that such experiences are important for a better understanding of the way in which asthma becomes fastened on adults, and that they point the way to prophylaxis.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin.

July, XXVIII, No. 1, pp. 1-130.

91 *Primary and Ultimate Results of Ovariotomies for Anatomically Malignant and Dubious Tumors. (Ovariotomien bei anatomisch malignen und zweifelhaften Geschwülsten.) C. Schmidlechner.

92 *The Larynx and Pregnancy. (Larynx und Schwangerschaft.) J. Hofbauer.

93 Kraurosis Vulvæ. W. Rosenfeld.

94 *Etiology and Treatment of Dysmenorrhea. P. Mathes.

95 *Correction with the Sound of Displacement of Uterus. (Sondenaufrichtung.) A. Goenner.

96 *Intrauterine Tents and Drains. (Intrauterinstifte.) Id.

91. **Ovariotomies for Tumors.**—Schmidlechner states that in the ovariotomies performed at the clinic for women's diseases at Budapest, 1880-1904, a primary cure was obtained in 82.86 per cent. of 35 cases of carcinoma and 14.2 per cent. permanent cures; primary cures in 96.67 per cent. of 60 cases of serous adenocystoma and 82.5 per cent. permanent cures; primary cures in 88.89 per cent. of 27 cases of sarcoma of the ovary and 85 per cent. permanent cures. He says that after removal of a tumor from one ovary it seldom develops in the other; the prognosis is more unfavorable with bilateral growths. The best prognosis is given by localized growths; papillary proliferations on the surface do not influence them much. The prognosis is least favorable in case of implantation on the peritoneum, although these grafts may vanish after removal of the tumor.

92. **The Larynx and Pregnancy.**—A singing teacher called Hofbauer's attention to the great change in the singing voice during pregnancy, saying that as a rule the voice becomes harsh and loses its richness and timbre, but in a few cases the voice becomes richer and softer. The changes in the pitch and tone may persist after the confinement. Hofbauer has since made a special study of the behavior of the larynx during pregnancy. The clinical and histologic findings confirm in every respect the assertions of professional singers in respect to the correlation between the genital processes and the larynx. His findings throw light on the refractory behavior of laryngeal catarrh during pregnancy, and the graver prognosis of laryngeal tuberculosis. Küttner has recently reported a fatal outcome in 200 out of 231 cases of laryngeal tuberculosis during pregnancy. During pregnancy the larynx loses most of its ciliated epithelium, and thus opposes less resistance to invading infection.

94. **Dysmenorrhea.**—Mathes calls attention to the large group of cases in which the dysmenorrhea is the direct result of asthenia and enteroptosis. Vague symptoms of appendicitis should always suggest a search for enteroptosis before operating. Enteroptosis may simulate acute peritonitis in some cases. All these symptoms, including tenderness, diffuse pain at the slightest touch, coated tongue, vomiting, obstipation, etc., subside during rest in bed and appropriate treatment.

95 and 96. **Correction of Uterine Displacements.**—Goenner advocates the gentle use of a sound to straighten the uterus free from adhesions in case of failure of bimanual reduction. It is especially useful for obese women and for virgins. In regard to uterine tents and drains he remarks that a forward curve is preferable to a straight tent. Hard rubber dipped in boiling water can be bent to this shape. Tents are contraindicated by inflammation of any kind, but may prove useful in dysmenorrhea and in sterility, the result of defective development. A curving intrauterine tent or profusely perforated drain soon proves effectual. He prefers a tapering metal drain, 3½ inches long, with four rows of three large openings, the diameter 4 or 5 mm. at the tip and 6 or 8 mm. below. The mucosa sucks into the holes and holds the drain firm. He first uses a tent and then inserts the drain, removing it every three or four days in case of much secretion, otherwise only at menstrual periods.

Münchener medizinische Wochenschrift.

July 14, LV, No. 28, pp. 1453-1520.

97 Hemolysins, Bacteriolysins and Opsonins. V. Baumgarten.

98 Structure of Opsonins: Research on Typhoid and Meningitis. A. Böhme.

99 *Spinal Anesthesia for Gynecologic Operations. (Rückenmarksanästhesie für die gynäkologischen Bauchoperationen.) E. Holzbach.

100 *Periodic Acetonemia in Older Children. Hecker.

101 Determination of Blood in Urine by Spectroscopic-Chemical Methods. (Nachweis von Blut im Harn.) O. Schumm.

102 *Pulmonary Emphysema and Asthma. (Rückwirkung des Lungenemphysems auf den Verlauf des Asthmas.) M. Saenger.

103 Results of Modern Treatment of Scoliosis. (Was dürfen wir von der heutigen Skoliosenbehandlung erwarten?) K. Wahl.

104 Menthol Poisoning. A. Schwenckenbecher.

105 Milk Periods in Course of Treatment of Obesity. (Milchtage bei Entfettungskuren.) L. Rosenheld.

99. **Spinal Anesthesia for Gynecologic Laparotomies.**—Holzbach reviews his experience with 250 laparotomies done under

spinal anesthesia. He regards the spinal technic as far from being an ideal method of anesthesia, but it is so superior to general anesthesia in many respects, he declares, that he prefers it for gynecologic operations, and is confident that the technic will soon be perfected.

100. **Periodic Acetonemia in Children.**—Hecker has observed five cases of gastric disturbances accompanied by elimination of acetone and acetic acid; the breath had the peculiar odor of acetone at times. Only a few of the children had fever during these attacks. The children were between 3 and 11 years old. He ascribes the vomiting to the effort of Nature to throw off the acetone bodies. He believes that the trouble is the result of some constitutional anomaly, probably defective development of the function of breaking down of fats. The disturbance in this function has probably some connection with disturbances in the leucocyte system. Ehrlich believes that the lymphocytes originate in the lymph glands, and Poulain has determined that the lymph glands have a great influence on the absorption of fat by their fat-dissolving ferment. Hecker ascribes periodic acetonemia, therefore, to some developmental defect, predominant in the lymphatic system. The blood in these cases should be examined during an attack and during the intervals. Treatment may be by suggestion (preparations for saline infusion, etc.). Fasting for two days may be beneficial, cautiously resuming food with little fat and albumin. He has found small pieces of chocolate and dry bread very useful, with alkalies. The latter proved especially beneficial in one of his more chronic cases. In the intervals, general hygiene, hydrotherapy, hot packs and little meat, with occasional use of hydrochloric acid and pepsin, may be useful.

102. **Treatment of Asthma.**—Saenger advocates exercises to train the respiratory center and organs to get along, at need, with a small amount of air. Just as a person can train himself to stay under water a long time, so he thinks that persons with a tendency to asthma and the resulting pulmonary emphysema can train their organs so that they can stand the stress of the attack of asthma. They should exercise themselves in voluntary restriction of their breathing, learning to breathe exclusively or predominantly by means of the abdominal muscles engaged in respiration. This not only rests the lungs, but closes the small bronchi during expiration, as by a valve, and thus prevents acute inflation of the lungs. Persons thus trained are freed from their paroxysmal suffocation and bronchial catarrh, although the emphysema may persist.

Wiener klinische Wochenschrift.

July 9, XXI, No. 28, pp. 1005-1052.

106 **Connection Between Antitoxin Content and Curative Potency of Antitoxic Sera. (Beziehungen des Antitoxingehaltes antitoxischer Sera zu deren Heilwerte.)** R. Kraus.
107 **Bacterial Anaphylaxis.** R. Kraus and E. Doerr.
108 **Percutaneous Tuberculin Reaction by Moro's Technic.** H. Kanitz.
109 ***Dangers of Ocular Reaction to Tuberculin. (Gefahren der Ophthalmoreaktion.)** R. Pollard.
110 **Modern Methods of Diagnosing Typhoid.** W. Spät.
111 **Simple Instrument for Endovesical Operations.** V. Blum.
112 ***Method of Dissolving Foreign Bodies in the Bladder. (Endovesikale Auflösung von Fremdkörpern.)** F. Pollak.
113 **Bilirubin Content of Pneumonic Sputum.** H. Popper.

July 16, No. 29, pp. 1053-1078.

114 **Pathologic Importance of Tuberculin Reaction.** F. Hamburger.
115 **Influence of Atoxyl on Leucocytes.** W. L. Yakimoff.
116 **Rôle of the Antibodies in Tuberculin Reaction.** E. Weil and W. Strauss.

109. **Ocular Tuberculin Reaction.**—Pollard urges that the ocular tuberculin reaction should be restricted to cases in which differentiation by other means is impossible, as his experience in three cases shows that it is by no means a harmless procedure. None of the patients had ever had any eye affection, but suppurative inflammation followed instillation of the tuberculin, requiring weeks of specialist treatment, and leaving a defect in the cornea in two cases with considerable impairment of vision in one.

112. **Method of Dissolving Foreign Bodies in Bladder.**—Pollak removed a wax taper from the bladder of a man of 28 by injecting 20 c.c. of benzin after emptying the organ. The benzin was left in the bladder for thirty minutes, and it was then rinsed out with salt solution, the procedure repeated several times with smaller amounts. The wick, 7 inches long, was spontaneously expelled in the urine the next day. The wax collected from the urine weighed 50 grains. In Lohnstein's case, previously mentioned in these columns, the patient had introduced a stick of tallow and its unsuspected presence in the bladder for several months had caused severe hematuria and other symptoms. Nearly 75 grains of tallow were recovered. The benzin caused no disturbances in either case, and allowed the removal of the foreign body safely and promptly. Hochenegg has recently reported still another case. The bladder was much inflamed from the presence of the wax, and to reduce the irritation from the benzin the bladder was partly filled with water, on which the wax and benzin floated, thus reducing the amount of contact with the walls of the organ, while the benzin was still acting on the foreign body.

Zentralblatt für Chirurgie, Leipsic.

July 11, XXXV, No. 28, pp. 841-872.

117 *"Milkers' Felon." (Panaritium der "Melker.") A. Peiser.
118 ***Prevention of Vomiting During First Whiffs of Ether. (Mittel gegen Erbrechen beim Aetherrausch.)** C. Ritter.

July 18, No. 29, pp. 873-904.

119 **Etiology of Congenital High Shoulder. (Aetiologie des angeborenen Schulterblatthochstandes.)** H. Teske.
120 **Osteoplastic Mediotarsal Enucleation.** C. Bayer.

117. **"Milkers' Felon."**—Peiser calls attention to the sanitary importance of the chronic felon on the hands of dairy employés. Inflammation is maintained by penetration of small hairs from the cow's udders. The lesion will not heal unless the hair in the depths is removed. He has encountered a number of such cases.

118. **Constriction Hyperemia to Prevent Vomiting from Anesthetic.**—Ritter presents a number of arguments to prove that ether acts much more powerfully on the brain when it is anemic than when it is congested. He describes experiments on dogs and 62 clinical cases which prove that a constricting band applied to the neck materially reduces the harmfulness of poisons for the brain. Especially with operations done during the first whiffs of ether (*Aetherrausch*) the Bier constricting band applied to the neck, immediately after the close of the operation and left in place for half to one hour, while the patient reclines, has put an end to the vomiting which previously was the almost invariable accompaniment of the ether anesthesia. He suggests that the constriction hyperemia might also prove beneficial in vomiting from other causes, in pregnancy or in inflammation of the brain.

Zentralblatt für Gynäkologie, Leipsic.

July 11, XXXII, No. 28, pp. 905-936.

121 **Acute Peritonitis Before and During Childbirth. (Akute Peritonitis vor und in der Geburt.)** G. Leopold.
122 **Acute Paralysis of Stomach with Secondary Occlusion of Duodenum. (Akute Magenlähmung mit sekundärem Duodenalverschluss.)** H. Albrecht.
123 **Two Cases of Hydrorrhea of Amniotic Fluid. (Hydrorrhea uteri gravidi amnialis.)** W. Ruth.

July 18, No. 29, pp. 937-968.

124 **Cesarean Section by the "Extraperitoneal" and the "Suprasymphyseal" Technics. (Der "extraperitoneale" und der "suprasymphysäre" Kaiserschnitt.)** M. Hofmeier.
125 **Improved Instrument for Perforation. (Perforatorium.)** Nacke.

Gazzetta degli Ospedali e delle Cliniche, Milan.

July 5, XXIX, No. 80, pp. 841-856.

126 **Various Localizations of Murmur from Mitral Insufficiency.** C. P. Goggia.
127 ***Cerebellar Syndrome Cured by Antisyphilitic Treatment.** E. Greggio.
128 ***Improved Technic for Antityphoid Vaccination. (Studii sul tifo.)** A. Bruschettini and A. Paccanaro.
129 **Technic of Specific Antituberculosis Treatment. (Trattamento specifico antitubercolare.)** G. Ghiselfini.

July 12, No. 83, pp. 873-888.

130 ***Pathology and Clinic of Tuberculosis in Light of Recent Conquests.** E. Maragliano.
131 ***Rheumatism of Brain. (Reumatismo cerebrale.)** U. Silva.
132 **Behavior of Elastic Tissue in Experimental Intestinal Stenosis. (Genesi delle alterazioni del tessuto elastico.)** M. Biagi.
133 **Spinal Anesthesia. (Rachianalgesia lombare con la tropococaina.)** G. Monzardo.
134 **Wire Suture of Fractured Clavicle. (Riunione operatoria nelle fratture della clavicola.)** A. Cianni.

127. Cerebellar Syndrome Cured During Antisyphilitic Treatment.—Greggio's patient was a robust man of 34 with a gradually developing syndrome suggesting a tumor in the cerebellum. Before the final decision to operate, antisyphilitic treatment was given a trial—although there was nothing to suggest syphilis—and all the symptoms gradually retrogressed, the patient returning to work completely cured.

128. Improved Technic for Immunization Against Typhoid.—Bruschettini and Paccanaro announce that guinea-pigs resisted otherwise fatal doses of typhoid toxin after a preventive injection of vaccine to which had been added one-tenth part of an extract of leucocytes obtained from the pleural cavity after injection of an irritating substance. The animals showed no signs of disease fifty days later, although the controls had all died in the first forty-eight hours. They think that the leucocyte extract has the power to render the vaccine absolutely harmless without detracting from its specific properties.

130. Tuberculosis in Light of Recent Research.—In the course of this postgraduate address by Maragliano he calls attention to the difference in the fever due to the action of tuberculous toxin and that from the toxin of pyogenic germs, and from the fever caused by the toxins generated by diseased and dying tissue cells. This toxic action of cells undergoing destruction has been shown by experimental injection of extracts of solutions of various dying tissues and blood corpuscles. Carbone declares that the pneumococcus acts more by the toxins produced by the tissues it devitalizes than by its own toxins. Bruschettini has recently announced that guinea-pigs succumbed much more rapidly to typhoid toxin when to it had been added the products of the degeneration of the intestinal epithelium. Barlocco's research has shown that under the hemolytic action of the endotoxins, toxic and pyrogenic substances derived from the destroyed blood corpuscles pass into the circulation. Extract of tuberculous lung tissue has a much more pronounced hemolytic action than extract of healthy lungs. Mircoli has shown that red corpuscles desiccated and then injected in solution into animals cause fever and cachexia. This result is more pronounced if the red corpuscles came from sick or ailing subjects. All these facts show the importance of the phenomena resulting from the disintegration of the cells, superposed on the initial infection. Especially in tuberculosis, the primary influence of the tubercle bacillus becomes gradually subordinate to the results of the other pathogenic elements which in time dominate the situation, transforming the primary disease into a new morbid process which has its new laws and may require its own special therapy, and explains the failures in specific treatment of tuberculosis.

131. Rheumatism of the Brain.—Silva reports three cases, in hard drinkers, of acute rheumatic fever assuming the meningeal form with extremely high fever. When the intense hyperpyrexia developed, the joint symptoms disappeared. Application of ice gave only transient benefit. After death the temperature continued to rise for about fifteen minutes, reaching nearly 108 F. The autopsy findings were not specially positive.

Policlinico, Rome.

June 28, XV, Practical Section. No. 26, pp. 805-836.

135 Filtrability of Trachoma Virus. L. Marongiu.

July 5, No. 27, pp. 837-868.

136 Familial Dystrophic Infantilism. L. Ettore.

July 12, No. 28, pp. 869-900.

137 *Differential Diagnosis Between Transudates and Exudates by Rivalta Test. W. Janowski.

138 Another Case of Osteomalacia Cured by Suprarenal Preparations. G. Rocchini.

139 Nervous Affections Among the Poor at Rome. (Malattie del sistema nervoso dominanti nelle classi povere de Roma.) G. Baschieri-Salvadori.

137. Differentiation of Transudates and Exudates.—Janowski has examined the effusion in 122 cases by Rivalta's technic; one or more drops of the effusion are added to 100 c.c. of water containing two drops of glacial acetic acid. As a drop of exudate makes its way down through this fluid it leaves a bluish trail like a puff of cigarette smoke in the water, each drop leaving a separate trail. The fluid remains clear and unaltered when the added drop is that of a transudate. He has found this test delicate and reliable.

Norsk Magazin for Lægevidenskaben, Christiania.

July, LXIX, No. 7, pp. 641-736.

140 Experiences with Iron Splinters in Eyes. (Jernsplint i öiet.) H. Lystad.

141 *Artificially Induced Hyperemia in Treatment of Nasal Affections. (Ifler's stasebehandlung anvendt i rhinologien.) R. Gording.

142 Pathologic Embryology. V. Magnus.

141. Suction Hyperemia in Rhinology.—Gording writes from the rhinologic clinic at Christiania to extol the benefits of the mask devised by Sondermann for applying suction to the nose and accessory cavities. Suction up to a negative pressure of 120 mm. mercury can be obtained even in the maxillary sinus. The cavities are evacuated, healing hyperemia is induced and completed by the reaction after the mask is removed. Several instructive cases are related, showing its advantages, particularly in the after-treatment of sinusitis. Sondermann's application of this principle of aspiration to the urethra was mentioned in THE JOURNAL, Dec. 16, 1905, page 1913, and for purulent rhinitis, Sept. 23, 1905, page 953.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A MANUAL OF MIDWIFERY. By Thomas Watts Eden, M.D., C.M. Edin., F.R.C.P. Lond., F.R.C.S. Ed., Obstetric Physician with Charge of Out-Patients and Lecturer on Practical Midwifery and Gynecology, Charing Cross Hospital. Cloth. Pp. 555, with illustrations. Second Edition. Price, $3.50. Chicago: W. T. Keener & Co., 1908.

ESSENTIALS OF DIETETICS. By Amy Elizabeth Pope, Instructor in Dietetics in the Schools of Nursing of the New York Hospital, and Mary L. Carpenter, Director of Domestic Science of the Public Schools, Saratoga Springs, New York. Cloth. Pp. 249. New York: G. P. Putnam's Sons, 1908.

ARBEITEN AUS DEM PHARMAZEUTISCHEN INSTITUT DER UNIVERSITÄT BERLIN. Herausgegeben von Dr. H. Thoms, Professor und Direktor des Pharmazeutischen Institutes der Universität Berlin. Cloth. Pp. 340. Vol. V. Report for 1907. Berlin: Urban & Schwarzenberg, 1908.

PULMONARY TUBERCULOSIS AND ITS COMPLICATIONS. By Sherman G. Bonney, A.M., M.D., Professor of Medicine, Denver and Cross College of Medicine, Denver. Cloth. Pp. 778, with illustrations. Price, $7.00. Philadelphia: W. B. Saunders Co., 1908.

PRINCIPLES OF PATHOLOGY. By J. George Adami, M.A., M.D., LL.D., F.R.S., Professor of Pathology in McGill University. Vol. I. General Pathology. Cloth. Pp. 948, with illustrations. Price, $6.00. Philadelphia: Lea & Febiger.

POINTS OF PRACTICE IN MALADIES OF THE HEART. By James Sawyer, Knt., M.D. Lond., F.R.C.P., F.R.S. Ed., F. S. A., Consulting Physician to Queen's College. Cloth. Pp. 96. Birmingham: Cornish Brothers, 1908.

MEDICAL GYNECOLOGY. By Samuel Wyllis Bandler, M.D., Fellow of the American Association of Obstetricians and Gynecologists. Cloth. Pp. 675, with illustrations. Price, $5.00. Philadelphia: W. B. Saunders Co., 1908.

OPHTHALMIC SURGERY. By Dr. Josef Meller, Privat docent and First Assistant K.K.11. University Eye Clinic, Vienna. Cloth. Pp. 262, with illustrations. Price, $3.00. Philadelphia: P. Blakiston's Son & Co., 1908.

CONSUMPTION. By N. S. Davis, A.M., M.D., Professor of Principles and Practice of Medicine, Northwestern University Medical School. Cloth. Pp. 171. Second Edition. Price, $1.00. Philadelphia: F. A. Davis Co., 1908.

THE EIGHTEENTH ANNUAL REPORT of the Eye, Ear, Nose and Throat Hospital of New Orleans, La., 1907. Paper. Pp. 72. New Orleans: L. Graham Co., 1908.

THE CHAILLE JUBILEE, also Annual Report of the Dean of the Medical Department of Tulane University of Louisiana, May 20, 1908. Paper. Pp. 27.

ESSENTIALS OF SURGERY. By Alwyne T. Compton, F.R.C.S. Cloth. Pp. 428, with illustrations. Price, $1.50. Chicago: W. T. Keener & Co., 1908.

DIE PRÜFUNG NICHTOFFIZIELLEN PRÄPARATE. Part I. Von Dr. Gustav Mossler. Cloth. Pp. 133. Part 1. Vienna: Carl Fromme.

CATALOGUE of the Officers and Fellows of the Massachusetts Medical Society. Paper. Pp. 166. Boston: D. Clapp & Son.

TRANSACTIONS OF THE AMERICAN SOCIETY OF MORAL PROPHYLAXIS. Vol. II, 1908. Paper. Pp. 246.

PROCEEDINGS of the Delaware County Institute of Science. Vol. III. No. 4. July 1908. Paper. Pp. 180.

WOODCROFT, Hospital for Nervous and Mental Diseases. Paper. Pp. 12.

FIRST ANNUAL REPORT, Tuberculosis League. Paper. Pp. 24.